

**AJAY RAI**

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**SCIENCE**

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## Science Quiz

2200

BY THE SAME AUTHOR

*Vikas Objective Book of Knowledge*  
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*How, What, Why*

# Science Quiz

AJAY RAI



TARANG PAPERBACKS

CHAND, V. R. SHARMA

8.7.03  
10697

**TARANG PAPERBACKS**

*a division of*

**Vikas Publishing House Pvt Ltd**

576 Masjid Road, Jangpura, New Delhi 110 014

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First edition, 1982

Tenth Edition, 1989

Printed at NEW PRINTINDIA PVT LTD

8/4-B, Industrial Area, Sahibabad 201010 (India)

## INTRODUCTION

I think I can safely claim that this is the first book of its kind in the country. And that puts a special responsibility on me, the responsibility of telling you what this book is all about.

Ours is a scientific age. So it has been said. Ours is an age of specialization. This too has been said quite often. But, most people miss a very pertinent fact—that ours is also an age of “doing things in a hurry.”

In every phase of our lives, every day, we are faced with the fact that so many things have to be done in so little time. The Union Public Service Commission (UPSC), the nation's biggest recruiting agency, has to test lakhs of students, process their answer sheets, make a merit list and prepare the results in three months flat. Had it to be done in the normal way, even computers would throw up their hands. So, objective-type testing has become the in-thing. For those of you who find this type of testing strange, let me explain in a few words.

In objective-type tests, a basic problem is stated and you have to choose the correct answers or complementary statement out of four or five choices listed below it. For example:

Q. The projection centred on any latitude which lies between the pole and the equator is known as:

(a) Conformal,

- (b) Oblique case,
- (c) Parallel,
- (d) Earth Grid, or
- (e) Hemisphere?

The purpose of objective testing is mainly twofold. First, it tests the basic knowledge the person taking the test has. Second, it also teaches him to be accurate and not approximate in his knowledge. Because, in this age of abundant knowledge, we cannot afford to be vague and irrelevant. As you go through the book, you will realize this distinction more clearly. You will also find in this book questions whose answers cannot be given in a single word; these must be given as briefly as possible. Accuracy and brevity should be your watchwords in answering these tests.

Most of the tests also have, as their last question, a question having ten alternative answer choices. Like:

Q. Which of the following is not a mineral? Is it:

- (a) Amelkite,
- (b) Amosite,
- (c) Dolomite,
- (d) Graphite,
- (e) Malachite,
- (f) Pyrite,
- (g) Chapelite,
- (h) Lewisite,
- (i) Muscovite or
- (j) Anchorite?

These three different types of questions have been taken because the book was planned to have maximum "know-

ledge" facts. That could not have been possible through only one kind of question.

AJAY RAI

**PART I**

**QUESTIONS**

Ptilonorphynchidea is the scientific name for the bird commonly known as:

- (a) Peacock,
  - (b) Dodo,
  - (c) Bower bird,
  - (d) Sparrow or
  - (e) Weaver bird?
2. Flourine, chlorine, bromine and iodine belong to the family of:
- (a) Acids,
  - (b) Halogen,
  - (c) Zoanthropy,
  - (d) Antiseptics or
  - (e) Catalytics?
3. What is :
- (a) Lignite?
  - (b) Steam coal?
  - (c) Cannel coal?
  - (d) Anthracite?
  - (e) Peat?
4. Where is fire damp found? Is it in:
- (a) Sewers,
  - (b) Internal combustion engines,
  - (c) Mines,
  - (d) The ashes of a bonfire or
  - (e) The submarine?
5. A solid obtained by a right-angled triangle rotating round one of its sides that is not a hypotenuse, is

known as:

- (a) Pyramid,
- (b) Cone,
- (c) Sphere,
- (d) Crescent or
- (e) Cylinder?

5. Siemens was the inventor of:

- (a) The spinning jenny,
- (b) Aniline dyes,
- (c) The open hearth furnace,
- (d) Ball bearings or
- (e) The electric dynamo?

7. The average depth of an ocean is:

- (a) 2300 ft,
- (b) 22,300 ft,
- (c) 12,451 ft,
- (d) 7451 ft or
- (e) 8700 ft?

8. A regular solid contained by a parallelogram is known as:

- (a) Parallelopiped,
- (b) Parallelscone,
- (c) Parallelotriangle,
- (d) Parallelocircle or
- (e) Parallelorhombus?

9. Which of the following is the "odd man out?"

- (a) Chrysanthemum,
- (b) Dahlia,
- (c) Lupin,
- (d) Michaelmas Daisy and
- (e) Helianthus.

10. Which of the following are a source of protein?

- (a) Meat,
- (b) Fish,
- (c) Cheese,
- (d) Soya flour,
- (e) Margarine,
- (f) Potatoes,
- (g) Dates,
- (h) Rice,
- (i) Eggs and
- (j) Milk.

## 2

1. Potassium hydrogen oxalate is commonly known as :
  - (a) Sal volatile,
  - (b) Spirits of salt,
  - (c) Vinegar,
  - (d) Copper sulphate or
  - (e) Salts of lemon?
2. There are four seasons recognized by the Indian Meteorological Department. Are they:
  - (a) Winter, monsoon, summer, post-monsoon?
  - (b) Winter, spring, summer, autumn?
  - (c) Winter, monsoon, summer, fall?
  - (d) Pre-monsoon, post-monsoon, winter, summer?
  - (e) Spring, pre-monsoon, summer, fall?
3. At 760 mm pressure, the boiling point of sulphuric acid is:
  - (a) 300°C,

- (b) 325°F,
  - (c) 325°C,
  - (d) 345°C or
  - (e) 400°F?
4. The specific gravity of iron is:
- (a) 7.95,
  - (b) 8.95,
  - (c) 9.95,
  - (d) 10.95 or
  - (e) 3.35?
5. How many teeth do the following have:
- (a) A child under five.
  - (b) A full-grown man.
  - (c) A horse.
  - (d) A dog.
  - (e) A cat.
6. Who are called "the proper"
- (a) Aryans
  - (b) Indo-Europeans,
  - (c) Semites,
  - (d) Hamites, and
  - (e) Nordics?
7. Is it true that:
- (a) Parents with brown eyes will have blue-eyed children?
  - (b) Parents with blue eyes will have brown-eyed children?
  - (c) Twins can have different coloured eyes?
  - (d) Twins can have the same finger-prints?
  - (e) Twins must always be of the same sex?
8. The ABC of chemistry is:
- (a) Argon, boron, carbon,

- (b) Allotropy, biotropy, cenotropy,
  - (c) Alkaline, base, chemical,
  - (d) Acid, base, compound or
  - (e) Acetic, Biochemic, carbonic?
9. Which part of the world is the biggest supplier of:
- (a) Mercury,
  - (b) Nickel,
  - (c) Asbestos,
  - (d) Tungsten and
  - (e) Cobalt?
10. Which of the following are a source of carbohydrate?
- (a) Bread,
  - (b) Margarine,
  - (c) Olive oil,
  - (d) Rice,
  - (e) Potatoes,
  - (f) Haricot beans,
  - (g) Dates,
  - (h) Cooking and frying fats,
  - (i) Fat meat and
  - (j) Vegetable oils.

3

A natural cavity in the earth's surface is called:

- (a) Volcano,
- (b) Cave,
- (c) Pocket,
- (d) Archipelago or
- (e) Fissures?

2. Answer the following:
- (a) What is sedimentation?
  - (b) Name two places where sedimentation is in evidence.
  - (c) What is erosion?
  - (d) Name three places where erosion is in evidence.
3. What is an *ani*? Is it a:
- (a) Kind of ant,
  - (b) Black, cuckoo-like bird,
  - (c) Blue, cuckoo-like bird,
  - (d) Green, eagle-like bird or
  - (e) Yellow, parrot-like bird?
4. Is it true that:
- (a) The proton is the smallest particle of matter?
  - (b) The atom was split before 1910?
  - (c) One element can be changed into another?
  - (d) A billion electrons (in chain) would equal an inch?
  - (e) The heaviest atom is that of uranium?
5. Linotype is a kind of:
- (a) Wallpaper,
  - (b) Oil painting,
  - (c) Printing,
  - (d) Whitewashing or
  - (e) Decorative tile?
6. According to the Indian Agricultural Research Institute, how many different kinds of soil formation is there in India?
- (a) Six,
  - (b) Thirteen,
  - (c) Eight,

- (d) Eleven or
  - (e) Four?
7. Diluted acetic acid is commonly known as:
- (a) Spirits of salt,
  - (b) Vinegar,
  - (c) Sal volatile,
  - (d) Salts of lemon or
  - (e) Soda?
8. Crystalline sodium carbonate is commonly known as:
- (a) Sal volatile,
  - (b) Spirits of salt,
  - (c) Washing soda,
  - (d) Plaster of Paris or
  - (e) Chalk?
9. India has four main river systems. Are they:
- (a) Himalayan, Deccan, coastal and the rivers of the inland drainage basin?
  - (b) Himalayan, eastern, southern and Deccan?
  - (c) Northern, coastal, southern and eastern?
  - (d) Central, Himalayan, coastal and western?
  - (e) North-eastern, southern, western and the rivers of the inland drainage basin?
10. Iron, phosphorus and manganese are necessary for body reactions concerned with the release of energies. Which of the following are their common sources?
- (a) Common salt,
  - (b) Milk,
  - (c) Cheese,
  - (d) Olive oil,
  - (e) Haricot beans,
  - (f) Dates,
  - (g) Eggs,

- (h) Bread,
- (i) Green vegetables and
- (j) Meat?

## 4

1. Alcohol freezes at a temperature of:
  - (a)  $-110^{\circ}\text{C}$ ,
  - (b)  $-112^{\circ}\text{C}$ ,
  - (c)  $-113^{\circ}\text{C}$ ,
  - (d)  $-114^{\circ}\text{C}$  or
  - (e)  $-120^{\circ}\text{C}$ ?
2.
  - (a) Name three creatures found on the (sea) shore.
  - (b) Name three types of shells.
  - (c) Name three types of sea birds.
  - (d) How many arms has a starfish?
  - (e) How many pincers has a crab?
3. What is the symbol for calcium; who from the following discovered it?
  - (a) Ca; H Davy.
  - (b) Cm; S Thompson.
  - (c) Cl; K Scheele.
  - (d) C; F Stromeyer.
  - (e) Cs; R Bunsen.
4. Chlorine was discovered by:
  - (a) K Scheele,
  - (b) R Bunsen,
  - (c) S Thompson,
  - (d) F Wohler or
  - (e) W Ramway?

5. Apatite is:
- (a) The plural of appetite,
  - (b) A kind of kite,
  - (c) A mineral or
  - (d) Another name of amelkrite?
6. Which of the following planets has the diameter of 7927?
- (a) Mercury,
  - (b) Mars,
  - (c) Jupiter,
  - (d) Earth or
  - (e) Pluto?
7. What is the altimeter used to measure?
- (a) Heights,
  - (b) Depths,
  - (c) Sound waves?
  - (d) The flow of the wind or
  - (e) Blood pressure?
8. The substances that cannot be broken down into other substances by chemical action are known as:
- (a) Metals,
  - (b) Elements,
  - (c) Compounds or
  - (d) Mixtures?
9. To which of the following does the chemical formula " $C_{10}H_{16}O$ " belong?
- (a) Benzene,
  - (b) Camphor,
  - (c) Ammonia or
  - (d) Phosphoric acid?
10. Which of the following are sources of Vitamin A?
- (a) Olive oil,

- (b) Dates,
- (c) Fish and animal livers,
- (d) Chocolate,
- (e) Dairy products,
- (f) Potatoes,
- (g) Green vegetables,
- (h) Root vegetables,
- (i) Apricots and
- (j) Tomatoes.

## 5

1. India lies on the:
  - (a) Northern hemisphere,
  - (b) Southern hemisphere,
  - (c) Equator,
  - (d) Temperate hemisphere or
  - (e) Prairies?
2. The chemical formula for camphor is:
  - (a)  $\text{CO}_2$ ,
  - (b)  $\text{C}_{10}\text{H}_{16}\text{O}$ ,
  - (c)  $\text{C}_8\text{H}_5\text{OH}$ ,
  - (d)  $\text{Fe}_3\text{O}_4$  or
  - (e)  $\text{CAM}_2\text{H}_1$ ?
3. Zirconium is :
  - (a) A stage in the earth's evolution,
  - (b) A high grade glass,
  - (c) An element,
  - (d) A chemical laboratory constructed specifically for research or

- (e) The first positive cure for leucoderma?
4. Radium was discovered by:
- (a) J Priestley,
  - (b) D Rutherford,
  - (c) Pierre and Madam Curie,
  - (d) C Hatchett or
  - (e) R Bunsen?
5.  $-273^{\circ}\text{C}$  is known as:
- (a) Absolute temperature,
  - (b) Absolute zero,
  - (c) Freezing temperature,
  - (d) Sublevel temperature or
  - (e) Arctic temperature?
6. An equilateral parallelogram with two acute and two obtuse angles is known as:
- (a) Cone,
  - (b) Trapezium,
  - (c) Rhombus,
  - (d) Pyramid or
  - (e) Base?
7. Ash is:
- (a) A kind of plant,
  - (b) A residue left after combustion,
  - (c) A slang word meaning "ask,"
  - (d) Short for "Ashok" or
  - (e) True form of "As?"
8. Name the brightest star in each of the following constellations:
- (a) Ursa Minor,
  - (b) Cygnus,
  - (c) Taurus,
  - (d) Orion and

1 (e) Canis.

9. (a) What is a saprophyte?  
(b) Can you name a plant of this family?  
(c) What is a logarithm?  
(d) What gadget puts it to practical use?  
(e) Who invented the logarithm?
10. Vitamin C is essential for which of the following?  
(a) The formation of blood vessels.  
(b) The growing of biceps.  
(c) The healing of wounds.  
(d) A fair complexion.  
(e) The formation of bones.  
(f) Raven-black hair.  
(g) The formation of teeth.  
(h) Intelligence.  
(i) The formation of connective tissues.  
(j) The health of sexual organs.

## 6

1. The flame of a Bunsen burner has a temperature of:  
(a)  $100^{\circ}\text{C}$ ,  
(b)  $1700^{\circ}\text{C}$ ,  
(c)  $1800^{\circ}\text{C}$ ,  
(d)  $2200^{\circ}\text{C}$  or  
(e)  $2500^{\circ}\text{C}$ ?
2. One of the brightest stars in each of the following constellations is also the brightest of the fixed stars. Can you name it?  
(a) Ursa Minor,

- (b) Cygnus,
  - (c) Taurus,
  - (d) Orion, and
  - (e) Canis.
3. A butte is:
- (a) A broad spade?
  - (b) A broad pipette?
  - (c) A flat-topped hill?
  - (d) A dry river basin?
  - (e) A conical hut?
4. "Aye-Aye" is a nearly extinct member of:
- (a) Lemur family,
  - (b) Cat family,
  - (c) Horse family,
  - (d) Insect family or
  - (e) Bird family?
5. Joseph Priestley is famous for:
- (a) Making the first adding machine,
  - (b) His special bull terriers,
  - (c) Discovering oxygen,
  - (d) Making the first computer, or
  - (e) Taking the first X-rays?
6. How many pounds make a ton?
- (a) 2000,
  - (b) 2150,
  - (c) 2200,
  - (d) 2240 or
  - (e) 4480?
7. Radar was invented by:
- (a) Henry Cavendish,
  - (b) Lord Kelvin,
  - (c) Robert Watson Watt,

- (d) Robert Brown or
- (e) Bruce Fleming?
- 8. What is common about the following?
  - (a) Actinium,
  - (b) Bismuth,
  - (c) Cerium,
  - (d) Curium and
  - (e) Erbium.
- 9. The chemical symbol for aluminium is:
  - (a) Al,
  - (b) Am,
  - (c) An,
  - (d) Alm or
  - (e) Amn?
- 10. Which of the following diseases can be caused due to the deficiency of Vitamin C?
  - (a) Rheumatism,
  - (b) Backache,
  - (c) Soreness of the mouth,
  - (d) Headache,
  - (e) Soreness of the gums,
  - (f) Scurvy,
  - (g) Bleeding within tissues,
  - (h) Retarded growth in young children,
  - (i) Paralysis and
  - (j) Elephantiasis.

1. Electrons were discovered by:
  - (a) Lavoisier,
  - (b) Henry Cavendish,
  - (c) J J Thomson,
  - (d) Edward Jenner or
  - (e) Albert Einstein?
2. The east-west part of the earth's grid is known as:
  - (a) Parallels,
  - (b) Earth grid,
  - (c) Equal grid,
  - (d) Azimuth or
  - (e) Diameter?
3. Local time is calculated on the basis of:
  - (a) GMT,
  - (b) JMT,
  - (c) KGT,
  - (d) TMG or
  - (e) GTM?
4.
  - (a) What is the Geiger Mueller counter?
  - (b) In what is it used?
  - (c) What are elements?
  - (d) How are they classified?
  - (e) What is bassoon?
5. What is the average weight of the following human organs:
  - (a) Heart,
  - (b) Lungs,
  - (c) Stomach,

- (d) Liver and
- (e) Brain?

Do their weights differ in women and men?

6. Which of the following is derived from petroleum?

- (a) Chlorine,
- (b) Natron,
- (c) Rhenium,
- (d) Paraffin and
- (e) Helium.

7. Atoms of an element which have the same atom number but different atomic weights are known as:

- (a) Isobars,
- (b) Isotopes,
- (c) Halogen,
- (d) Rare earth or
- (e) Configurations?

8. Angstrom is:

- (a) A type of thermometer,
- (b) A unit of length,
- (c) A unit of weight,
- (d) An acid or
- (e) Dry batteries?

9. Bachelor's button

- (a) An unmarried man's button,
- (b) Any of several button-shaped flowers,
- (c) A shoe button,
- (d) Any of several button-shaped animals or
- (e) The belly button?

10. Which of the following are not minerals?

- (a) Amelkite,
- (b) Amosite,
- (c) Dolomite,

- (d) Graphite,
- (e) Malachite,
- (f) Pyrite,
- (g) Chapelite,
- (h) Lewisite,
- (i) Muscovite and
- (j) Anchorite.

## 8

1. How many litres make a quart?
  - (a) 1.5,
  - (b) 1.4,
  - (c) 1.136,
  - (d) 1.036 or
  - (e) 1.156
2. How much approximately of the earth's surface is covered with water?
  - (a)  $1/2$ ,
  - (b)  $9/10$ ,
  - (c)  $7/10$ ,
  - (d)  $3/4$  or
  - (e)  $13/14$ ?
3. Bifocal lenses were invented by:
  - (a) Benjamin Franklin,
  - (b) Benjamin Spock,
  - (c) Benjamin Gilbert,
  - (d) Benjamin Jones or
  - (e) Benjamin Benjamin?
4. What is Bell's palsy? Is it:

- (a) Mr Bell's pal,
  - (b) A condition which can result in the paralysis of the facial muscles,
  - (c) Ringing of the bell,
  - (a) Belling the palbearers or
  - (e) Belling the bull?
5. At 760 mm pressure, the boiling point of distilled water is:
- (a) 100°F,
  - (b) 100°C,
  - (c) 132°C,
  - (d) 156°F or
  - (e) 200°C?
6. The body which absorbs radiation completely, without reflection, therefore appearing completely black, is known as:
- (a) The Dark Body,
  - (b) The Black Body,
  - (c) The Matt Body,
  - (d) The Shutter or
  - (e) The Absorber?
7. That point of heaven which lies vertically below the observation station on earth is known as:
- (a) Catch-22,
  - (b) Magnum opus,
  - (c) Spica,
  - (d) Nadir or
  - (e) Deep?
8. Which of the following is neither a real science nor a pretended one?
- (a) Cheoromancy,
  - (b) Astronomy,

- (c) Psychiatry,
  - (d) Chiropody or
  - (e) Palmistry?
9. (a) How does the spectroscope work?
- (b) Is it used in: *watching a game*
- (1) The analysis of the spectrum,
  - (2) Measuring the number of spectators watching a game,
  - (3) Transmitting radio waves,
  - (4) Magic or
  - (5) Measuring atomic reactions?
10. Which of the following can be obtained from coal:
- (a) Carbolic acid,
  - (b) Sulphate of ammonia,
  - (c) Bakelite,
  - (d) Saccharine,
  - (e) Aspirin,
  - (f) Sulphuric acid,
  - (g) Napthalene,
  - (h) Novocaine,
  - (i) Benzene and
  - (j) Aniline dyes?

9

1. The study of cells is carried out under the science of:
- (a) Cytology,
  - (b) Ecology,
  - (c) Epistemology,
  - (d) Companology or

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(e) Epidermology?

2. The chemical elements that can appear in more than one form are called:

- (a) Dual elements,
- (b) Allotropical elements,
- (c) Allot elements,
- (d) Changeable elements or
- (e) Duplicate elements?

3. How many million miles away is the earth from the sun?

- (a) 36,
- (b) 67,
- (c) 93,
- (d) 141 or
- (e) 207.

4. Mesa is:

- (a) The flat-topped land from which once was part of a plateau?
- (b) The sharp summit of a volcano?
- (c) A hot water spring?
- (d) An African rattlesnake?
- (e) Spanish black pepper?

5. A solid having a figure of three or more sides for a base, and triangles for other faces, is known as:

- (a) Cone,
- (b) Pyramid,
- (c) Trapezium,
- (d) Rhombus or
- (e) Sphere?

6. (a) What is glaciation?

(b) Name three places where this is in evidence.

(c) What are fossils?

- (d) Name three places where they are found most.
7. When used, cement must be mixed with sand in the ratio of (sand: cement):
- (a) 3 : 1,
  - (b) 4 : 1,
  - (c) 5 : 1,
  - (d) 5 : 2 or
  - (e) 6 : 3?
8. What is a "bleeding heart?" Is it a kind of:
- (a) Plant,
  - (b) Animal,
  - (c) Gas,
  - (d) Star or
  - (e) Planet?
9. (a) What is a telescope?  
(b) Where among the following is the largest telescope situated?
- (1) Mount Everest,
  - (2) Godwin Austin,
  - (3) Mount Palomar,
  - (4) Mount Neelkanth or
  - (5) Mount Telescope?
10. The average temperature of the human body is 99°F. What is that of the following:
- (a) Bat,
  - (b) Crow,
  - (c) Panther,
  - (d) Porpoise,
  - (e) Snake,
  - (f) Wolf,
  - (g) Snail,
  - (h) Parrot,

- (i) Goat and
- (j) Dog.

## 10

1. When used with concrete, cement must be used in the ratio of (concrete: cement):
  - (a) 4 : 1,
  - (b) 5 : 1,
  - (c) 7 : 1,
  - (d) 4 : 2 or
  - (e) 6 : 1?
2. What is a "Blood Fluke"? Is it:
  - (a) Flowing of blood by fluke,
  - (b) A parasite,
  - (c) Blood of the fluke,
  - (d) Flaked blood or
  - (e) Blooded fluke?
3. (a) How does a barometer function?  
(b) Who of the following invented it?
  - (1) E Baron?
  - (2) E Toricelli?
  - (3) E Turin?
  - (4) E Tombaro?
  - (5) E Rome?
4. Is it true that:
  - (a) Penguins are birds, so they can fly?
  - (b) Snakes have eyelids?
  - (c) Gibbons have tails?
  - (d) Hummingbirds can fly backwards?

- (e) Bats have claws?
5. When matter is transformed from solid to liquid state, the process is known as:
- (a) Fission,
  - (b) Fusion,
  - (c) Transformation,
  - (d) Change or
  - (e) Liquefaction?
6. How many British Thermal Units (BTU) make up one Therm?
- (a) 10,000,
  - (b) 50,000,
  - (c) 75,000,
  - (d) 100,000 or
  - (e) 200,000?
7. Compound fracture affects:
- (a) Only the bones,
  - (b) The skin and tissues along with the bones,
  - (c) The bones and veins,
  - (d) Only the ribs or
  - (e) Only the thigh bones?
8. Which of the following is not found naturally in the atmosphere?
- (a) Nitrogen,
  - (b) Oxygen,
  - (c) Carbon monoxide or
  - (d) Helium?
9. Every 15° distance due east or west makes a difference of:
- (a) One hour,
  - (b) One hour and one minute,
  - (c) Fifty-five minutes,

- (d) Fifty minutes, fifty seconds or  
(e) Two hours?
10. It takes about one hour to digest rice. How much time does it take to digest:
- (a) Raw egg,
  - (b) Baked potato,
  - (c) Boiled egg,
  - (d) Boiled potato,
  - (e) Butter,
  - (f) Cabbage,
  - (g) Apple,
  - (h) Boiled milk,
  - (i) Boiled beans and
  - (j) Boiled mutton.

## 11

1. What is a "Bloodroot"? Is it:
- (a) Root cause of bleeding,
  - (b) A North American plant,
  - (c) A North American animal,
  - (d) A South American Chipmunk or
  - (e) Blooded root?
2. (a) How does a radar work?  
(b) Is it:
- (1) A war instrument?
  - (2) An instrument used for astronomical studies,
  - (3) An instrument used for keeping track of the man-made satellites circling the earth?
3. How many hectares make an acre?

- (a) 1,
  - (b) .75,
  - (c) .6,
  - (d) .4 or
  - (e) .3,
4. The chemical formula  $\text{CO}_2$  stands for:
- (a) Carbon dioxide,
  - (b) Water,
  - (c) Carbon monoxide,
  - (d) Copper sulphate or
  - (e) Carbon?
5. How many pounds does one cubic/foot of normal water weigh?
- (a) 60.20,
  - (b) 61.20,
  - (c) 62.29,
  - (d) 63.39 or
  - (e) 62.20?
6. A vast accumulated mass of snow and ice at high altitude, whose own weight causes it to slide rapidly down mountain slopes is called:
- (a) Carte blanche,
  - (b) The Great Deluge,
  - (c) Snowfall,
  - (d) Ice blizzard or
  - (e) Avalanche?
7. The chronometer is:
- (a) An extremely accurate time-keeper,
  - (b) An extremely accurate measurement of chronic diseases,
  - (c) A weighing machine,
  - (d) The motor that keeps a robot working or

- (e) A water-saving device?
8. The process whereby water flows through a membrane when the solutions on the two sides are not of equal strength is known as:
- (a) Osmosis,
  - (b) Mimesis,
  - (c) Cosmosis,
  - (d) Filtration or
  - (e) Titration?
9. Cirus is an Indian:
- (a) One megawatt swimming-pool-type atomic reactor,
  - (b) 40-MW reactor built with Canadian collaboration,
  - (c) Zero energy experimental reactor,
  - (d) Zero energy fast reactor or
  - (e) 100-MW thermal research reactor?
10. What is the boiling point of the following at 760 mm pressure:
- (a) Chlorine,
  - (b) Nitrous Oxide,
  - (c) Ammonia,
  - (d) Ether,
  - (e) Chloroform,
  - (f) Alcohol,
  - (g) Benzene,
  - (h) Distilled water,
  - (i) Sulphuric acid and
  - (j) Mercury.

1. APSARA is an Indian:
  - (a) One-megawatt swimming-pool-type atomic reactor,
  - (b) 40-MW reactor built with Canadian collaboration,
  - (c) Zero energy experimental reactor,
  - (d) Zero energy fast reactor or
  - (e) 100-MW thermal research reactor?
2. How does a hovercraft operate? Is the principle behind the working of a hovercraft basically the same as that of a:
  - (a) Submarine,
  - (b) Steam engine,
  - (c) Ships,
  - (d) Jet engine or
  - (e) Automobile?
3. What is a "blue-bonnet"? Is it:
  - (a) A special bonnet,
  - (b) A kind of plant,
  - (c) Blue bonnet,
  - (d) A kind of fruit or
  - (e) A blueberry?
4. The sextant is an instrument used mostly in:
  - (a) Gynaecology,
  - (b) Birth control,
  - (c) Navigation,
  - (d) Automobile technology or
  - (e) Experiments in chemistry?

5. How many pounds does one gallon of pure water weigh?
- (a) 10,
  - (b) 22,
  - (c) 31,
  - (d) 6 or
  - (e) 17?
6. The radio valve was invented by:
- (a) Sir Alexander Fleming,
  - (b) Sir Ambrose Fleming,
  - (c) Sir Ian Fleming,
  - (d) Sir Bruce Fleming or
  - (e) Sir John Fleming?
7. The layer of air closest to the earth is referred to as:
- (a) Ionosphere,
  - (b) Troposphere,
  - (c) Stratosphere,
  - (d) Mysurpials or
  - (e) Geosphere?
8. Bougainvillea is named after:
- (a) Louis Antoine de Bougainvillea,
  - (b) The city of Bougainvillea,
  - (c) Charles Ludwig Bougainvillea,
  - (d) Henry de Toulouse Bougainvillea or
  - (e) Jacques Bougainvillea?
9. Which of the following explain the difference between forged and wrought iron?
- (a) Forged iron contains a higher proportion of carbon.
  - (b) Wrought iron is run directly from the furnace.
  - (c) No difference. Both are the same.

(d) Wrought iron contains more carbon.

(e) Wrought iron contains no carbon.

10. What subjects are studied by the following:

(a) Ornithologists,

(b) Complanologists,

(c) Zoologists,

(d) Spelaeologists,

(e) Entomologists,

(f) Astrologers,

(g) Anthropologists,

(h) Archaeologists,

(i) Mineralogists and

(j) Gemologists.

13

1. A star which explodes and throws off a bright outer shell of gas is known as:

(a) A comet,

(b) A Nova,

(c) A meteor,

(d) A firefly or

(e) A scorpius?

2. "Box elder" is a:

(a) Species of maple,

(b) Kind of orange,

(c) Box chair for the elders,

(d) Species of snake or

(e) Kind of wood?

3. The device for automatic control of temperature in

furnaces is known as:

- (a) Thermometer,
  - (b) Thermogram,
  - (c) Thermostat,
  - (d) Thermofurnace or
  - (e) Thermoscope?
4. Which of the following is attracted by a magnet?
- (a) Silver,
  - (b) Magnesium,
  - (c) Radium,
  - (d) Iron and
  - (e) Rubber.
5. The flame of an oxyacetylene burner has the temperature of:
- (a)  $1000^{\circ}\text{C}$ ,
  - (b)  $1200^{\circ}\text{C}$ ,
  - (c)  $2000^{\circ}\text{C}$ ,
  - (d)  $3000^{\circ}\text{C}$  or
  - (e)  $4000^{\circ}\text{C}$ ?
6. Which of the following is not a poisonous gas?
- (a) Lewisite,
  - (b) BBC,
  - (c) Chlorine,
  - (d) KKK and
  - (e) Carbon monoxide.
7. What is defined as: "The square on the hypotenuse of a right-angled triangle is equal to the sum of the squares on the other two sides."
- (a) The Pythagoras theorem?
  - (b) The Euclidean theorem?
  - (c) The Platonic theorem?
  - (d) The Aristotelean theorem?

- (e) The Socratic theorem?
8. Robert Stevenson is famous for which of the following?
- (a) Designing the first stove.
  - (b) Designing the flush system.
  - (c) Building lighthouses.
  - (d) Designing the dentist's chair.
  - (e) Designing the gramophone.
9. Nose, larynx and trachea are parts of our:
- (a) Nervous system,
  - (b) Respiratory system,
  - (c) Circulatory system or
  - (d) Reproductive system?
10. What are the following and where are they located:
- (a) Femur.
  - (b) Tibia.
  - (c) Clavicle.
  - (d) Humerus.
  - (e) Ulna.
  - (f) Trachea.
  - (g) Left ventricle.
  - (h) Cerebellum.
  - (i) Bicuspidals.
  - (j) Occiput.

1. Vasculum is a kind of:
- (a) Chemist's portable experimental box,
  - (b) Botanist's portable experimental box,

- (c) Physicist's portable experimental box,
  - (d) Doctor's portable medical kit or
  - (e) Horticulturist's experimental kit?
2. Nylon was invented by:
- (a) Robert Nylon,
  - (b) Wallace Caruthers,
  - (c) Lady Alicia Nylon,
  - (d) Nathaniel Nylon or
  - (e) Yves Montand?
3. A furlong has:
- (a) 8 chains,
  - (b) 9 chains,
  - (c) 10 chains,
  - (d) 11 chains or
  - (e) 12 chains?
4. The chemical symbol for tin is:
- (a) Sn,
  - (b) Tn,
  - (c) Ti,
  - (d) Tb or
  - (e) Sc?
5. The human body consists of more than:
- (a) 500 muscles,
  - (b) 1000 muscles,
  - (c) 1500 muscles,
  - (d) 2000 muscles or
  - (e) 2200 muscles?
6. What is area scale:
- (a) Area of the scale,
  - (b) The ratio between the area on the map and the same area on the earth,
  - (c) The ratio between the area on different

maps or

- (d) The ratio between two areas on the same map?

7. Carbon compounds are studied in:

- (a) Organic chemistry,
- (b) Inorganic chemistry,
- (c) Molecular biology,
- (d) Biophysics or
- (e) Allotropy?

8. Which of the following is not true?

- (a) Trees can live for more than 500 years?
- (b) Bees can live for 4-5 years?
- (c) Man on an average lives longer than woman?
- (d) The mayfly lives for less than one day?
- (e) Light is faster than sound?

9. Periodic winds that blow from the Indian Ocean over India are known as:

- (a) Fohn,
- (b) Sirocco,
- (c) Simoons or
- (d) Blizzards?

10. Arrange these following in order of size:

- (a) Comet,
- (b) Microbe,
- (c) Atom,
- (d) Sun,
- (e) Earth,
- (f) Proton,
- (g) Electron,
- (h) Filterable virus,
- (i) Shooting star and
- (j) Moon.

1. The partial or total obstruction of one space body with another is known as:
  - (a) Obstruction,
  - (b) Eclipse,
  - (c) Ellipse,
  - (d) Quake,
  - (e) Juxtaposition?
2. Which of the following is *not* derived from petroleum?
  - (a) Paraffin,
  - (b) Naptha,
  - (c) Kerosene,
  - (d) Chlorine and
  - (e) Vaseline.
3. A "Brama" is:
  - (a) An illiterate's way of saying "Brahma",
  - (b) The pomfret,
  - (c) A food fish,
  - (d) A special brassiere or
  - (e) A plant ?
4. The first mountain ranges were formed during which of the following stages of evolution?
  - (a) The Archeozoic,
  - (b) The Silurian,
  - (c) The Carboniferous,
  - (d) The Cretaceon and
  - (e) The Ordivician.
5. What was Archaeopteryx?
  - (a) A soil-grading barometer,

- (b) An Egyptian preparation for embalming bodies,
  - (c) The earth God,
  - (d) A creature between flying reptiles and birds or
  - (e) A stage in the earth's evolution?
6. The Southern Ape Man is otherwise known as:
- (a) Australopithecus,
  - (b) Dindopithecus,
  - (c) Sapienopithecus,
  - (d) Mammalopithecus or
  - (e) Homopithecus?
7. What is Zerlina? Is it an Indian:
- (a) One-Megawatt swimming pool type atomic reactor?
  - (b) 40-MW reactor built with Canadian collaboration?
  - (c) Zero energy experimental reactor?
  - (d) Zero energy fast reactor?
  - (e) 100-MW Thermal research reactor?
8. What is the Earth?
- (a) A planet,
  - (b) An asteroid,
  - (c) A satellite,
  - (d) A nova or
  - (e) A mesa?
9. Which of the following is not an insect?
- (a) Wasp,
  - (b) Flea,
  - (c) Ladybird,
  - (d) Lizard or
  - (e) Ant?

10. As per their density, arrange the following:

- (a) Silver,
- (b) Lithium,
- (c) Beryllium,
- (d) Platinum,
- (e) Iridium,
- (f) Lead,
- (g) Iron,
- (h) Copper,
- (i) Mercury and
- (j) Magnesium.

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1. Meteors which do not burn out and fall to the ground are called:

- (a) Meteoroids,
- (b) Meteorites,
- (c) Minimeteors,
- (d) Millimeteors or
- (e) Hot meteors?

2. "Bridalwreath" is a kind of:

- (a) Bird,
- (b) Shrub,
- (c) Wreath for the bride,
- (d) Bride in the wreath or
- (e) Fish?

3. Henry Gifford is famous for the invention of the:

- (a) Aeroplane,
- (b) Airship,

- (c) Balloon,
  - (d) Helicopter or
  - (e) Arc lamp?
4. The sun has a candle power of:
- (a) 1,575,000,000,000,
  - (b) 15,75,000,000,000,000,
  - (c) 15,75,000,000,000,000,000,
  - (d) 1,575,000,000,000,000,000,000 or
  - (e) 1,575?
5. Logarithms were invented by:
- (a) John The Nape,
  - (b) John Napier,
  - (c) John Neparcus,
  - (d) John Adams or
  - (e) John Routland?
6. The pressure of the atmosphere per square inch is:
- (a) 13.7 lbs,
  - (b) 14.7 lbs,
  - (c) 15.7 lbs,
  - (d) 16.7 lbs or
  - (e) 20 lbs?
7. A group of organic compounds in which two organic groups unite to form a carbon group are known as:
- (a) Proteins,
  - (b) Ketones,
  - (c) Quotones,
  - (d) Getones or
  - (e) Carbolics?
8. What is Sima ? Is it:
- (a) A boundary,
  - (b) The lower level of the rocks of the earth's crust,

- (c) Measurement of sea level,
  - (d) Measurement of altitude or
  - (e) The longest projection of rock in the sea?
9. What percentage of the air around us makes up nitrogen?
- (a) 75%,
  - (b) 78%,
  - (c) 65%,
  - (d) 68% or
  - (e) 92%?
10. Arrange the following according to their development and their use by men:
- (a) Boat,
  - (b) Steam power,
  - (c) Fire,
  - (d) Iron,
  - (e) Rough stone weapons,
  - (f) Weaving,
  - (g) Electricity,
  - (h) Radium,
  - (i) Plough and
  - (j) The internal combustion engine.

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1. The rare gases which are chemically inactive and are found in small quantities are known as:
- (a) Rare gases,
  - (b) Inert gases,
  - (c) Hydrates,

- (d) Rare earth or
- (e) Precipitates?
- 2. Water turns into steam at a temperature of:
  - (a)  $101^{\circ}\text{C}$ ,
  - (b)  $100^{\circ}\text{C}$ ,
  - (c)  $100^{\circ}\text{F}$ ,
  - (d)  $101^{\circ}\text{F}$  or
  - (e)  $98^{\circ}\text{F}$ ?
- 3. Triplumbic Tetraoxide is commonly known as:
  - (a) Fire damp,
  - (b) Special alcohol,
  - (c) Red lead,
  - (d) Plaster of Paris or
  - (e) Methane?
- 4. "Caesarean section" is:
  - (a) Caesar's section,
  - (b) The delivery of a child by surgery,
  - (c) The delivery of a child by suction,
  - (d) Ceased section or
  - (e) Sectional incision?
- 5. Which of the following is true?
  - (a) The protons are the smallest particles of matter?
  - (b) The atom was split before 1910?
  - (c) One element can be changed into another?
  - (d) One element cannot be changed into another?
  - (e) A billion electrons would equal an inch?
- 6. The number of brightest stars visible to the naked eye is:
  - (a) 20,
  - (b) 30,
  - (c) 40,

- (d) 50 or
- (e) 60?
- 7. A rising and falling needle of the barometer indicates:
  - (a) Changeable weather,
  - (b) Unchanging weather,
  - (c) A still day,
  - (d) A hot day or
  - (e) A coming snowfall?
- 8. What are:
  - (a) Chalk,
  - (b) Blackboard chalk,
  - (c) Quick lime,
  - (d) Slaked lime and
  - (e) Hydrated lime?
- 9. Cardamom is native to:
  - (a) Brazil,
  - (b) India,
  - (c) Canada,
  - (d) Crete or
  - (e) Uganda?
- 10. Which of the following are reflex, instinctive and rational actions:
  - (a) Sneezing.
  - (b) Opening locked doors.
  - (c) Riding a bicycle.
  - (d) Building of webs by spiders.
  - (e) Jerking the knee when tapped.
  - (f) Drawing back the hand from hot coal.
  - (g) Playing of cat with mouse.
  - (h) Sucking by the baby.
  - (i) Fleeing from danger.
  - (j) Nest-building by birds.

1. A barometer which measures altitude is called:
  - (a) An altiscope,
  - (b) An altimeter,
  - (c) A chronometer,
  - (d) An isobar or
  - (e) An elevator?
2. Chalchihuitl is a:
  - (a) Mineral,
  - (b) African monkey,
  - (c) God worshipped by the Aztecs,
  - (d) Latin American lizard or
  - (e) European blood sucker?
3. Proteins consumed in excess:
  - (a) Cause a disease called protogia,
  - (b) Become a source of energy,
  - (c) Go out through the body as wastes,
  - (d) Become blood or
  - (e) Cause goitre?
4. (a) How does an internal combustion engine operate?  
(b) Does it work on the same lines as which of the following:
  - (1) Bicycle,
  - (2) Motorcycle,
  - (3) Hovercraft,
  - (4) Jet engine or
  - (5) Submarine?
5. (a) Which beautiful dog was a (food) delicacy for the Chinese?

- (b) Which dog was held sacred by them?
- (c) How far can a dog follow a smell?
- (d) What is a large white dog with black or liver spots called?
- 6. Color blindness is also known as:
  - (a) Achromatropsia,
  - (b) Daltonism,
  - (c) Coblind,
  - (d) Colorblindness or
  - (e) Freudism?
- 7. Who among the following invented aspirin?
  - (a) Lord Aspirin.
  - (b) Christian Aspirino.
  - (c) Herman Dreser.
  - (d) Marie Curie.
  - (e) Pierre Curie.
- 8. Who among the following was the *second* man to step on to the moon?
  - (a) Charles Conrad.
  - (b) Edwin Aldrin.
  - (c) Jim Lovell.
  - (d) Frank Borman.
  - (e) Keith Chesterton.
- 9. What is Ohm's Law? Among the following who formulated it?
  - (a) Frank G Ohm.
  - (b) George S Ohm.
  - (c) John S Ohm.
  - (d) Peter Ohm.
  - (e) Grigory S Ohm.
- 10. Which of the following burn with flame?
  - (a) Chalk,

- (b) Phosphorus,
- (c) Magnesium,
- (d) Oil of vitriol,
- (e) Helium,
- (f) Carbon,
- (g) Methane,
- (h) Hydrogen,
- (i) Nitrogen and
- (j) Oxygen.

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1. Our galaxy has about:
  - (a) 30,000 million stars,
  - (b) 60,000 million stars,
  - (c) 3 million stars or
  - (d) 33 million stars?
2. The chemical formula for phenol is:
  - (a)  $C_6H_6$ ,
  - (b)  $C_{10}H_{16}O$
  - (c)  $C_6H_5OH$ ,
  - (d)  $Fe_3O_4$  or
  - (e)  $HNO_3$ ?
3. What is a cluster of islands representing the tops of a submerged coastal mountain range called?
  - (a) A ravine,
  - (b) An archipelago,
  - (c) A glacier,
  - (d) A continental shelf or
  - (e) A butte?

4. The "Congo Eel" is:  
(a) An eel which is found in Congo,  
(b) Not an eel,  
(c) Not found in the Congo,  
(d) A salamander or  
(e) A bird?
5. Specific gravity, or the density of liquids, is measured by a:  
(a) Liquimeter,  
(b) Densogram,  
(c) Hydrometer,  
(d) Chronometer or  
(e) Thermometer?
6. What are the following?  
(a) Thermostat.  
(b) Thermidor.  
(c) Therm.  
(d) Thermite.  
(e) Thermogene.
7. The old, middle and new stone ages refer to:  
(a) The stages in the growth of man?  
(b) Stages in the growth of mountains?  
(c) Stages in the growth of the universe?  
(d) Stages in the growth of sculpture?  
(e) Stages in the growth of the sun?
8. The 365-day calendar was first used by the:  
(a) Indians,  
(b) Egyptians,  
(c) Greeks,  
(d) Chinese or  
(e) Arabs?
9. China exploded her first nuclear bomb in:

- (a) 1963,
- (b) 1970,
- (c) 1972,
- (d) 1968, or
- (e) 1964?

10. Which of the following are poisonous plants?

- (a) Privet,
- (b) Yew,
- (c) Nightshade,
- (d) Buttercup,
- (e) Wood sorrel,
- (f) Fool's parsley,
- (g) Wild arum,
- (h) Hemlock,
- (i) Laburnum and
- (j) Monkshood.

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1. What is R-5? Is it an Indian:

- (a) One-megawatt swimming pool type atomic reactor,
- (b) 40-MW reactor built with Canadian collaboration,
- (c) Zero energy experimental reactor,
- (d) Zero energy fast reactor or
- (e) 100-MW thermal research reactor?

2. Which of the following are corn products:

- (a) Hominy,
- (b) Yeast,

- (c) Laundry starch,
  - (d) Sticking agent in stamps, etc., and
  - (e) Candy.
3. Shooting stars, falling stars and fire balls are:
- (a) Comets,
  - (b) Meteors,
  - (c) Novas or
  - (d) Planetoids?
4. Cybernetics studies:
- (a) Circulation of water on the earth's surface,
  - (b) Communication and control in both animals and machines,
  - (c) Flow of air,
  - (d) Electrical slump or
  - (e) Dipping of gases?
5. Man's rate of respiration varies from 12 to 19 breaths per minute. What is that of:
- (a) Whales,
  - (b) Horses,
  - (c) Oxen,
  - (d) Sheep and
  - (e) Rabbits?
6. Is it true that:
- (a) Sound can be propagated through ether?
  - (b) Dogs can hear some sounds that humans cannot?
  - (c) A man can be shot before he hears the sound of the shot?
  - (d) Sound travels faster in water than in air?
  - (e) A man sitting behind hears a sound later than the one sitting in front of him?
7. What is:

- (a) Chloroform,
  - (b) Chlorophyle,
  - (c) Chlorodyne,
  - (d) Chlorobromide and
  - (e) Chlorosis?
8. How many pounds does one cubic foot of sea water weigh?
- (a) 62.29,
  - (b) 62.2,
  - (c) 62.39,
  - (d) 63.3 or
  - (e) 60?
9. The Bunsen burner was invented by:
- (a) Jacob Bunsen,
  - (b) Robert von Bunsen,
  - (c) Franklin Bunsen,
  - (d) Heinrich von Bunsen or
  - (e) Madame Bunsen?
10. What are the following?
- (a) Pentacle,
  - (b) Pentagram,
  - (c) Pentad,
  - (d) Pentameter,
  - (e) Penthouse,
  - (f) Pentagon,
  - (g) Pentane,
  - (h) Pentateuch,
  - (i) Penticost and
  - (j) Pentathlon?

1. Who from the following invented the adding machine:
  - (a) Mach Addington,
  - (b) Benjamin Franklin,
  - (c) Blaise Pascal,
  - (d) William Addington or
  - (e) Philip Richter?
2. How many litres has a gallon:
  - (a) 4.5434,
  - (b) 3.5434,
  - (c) 4.7434,
  - (d) 4.9434 or
  - (e) 5.1234?
3. What is calcium carbonate commonly known as?
  - (a) Plaster of Paris,
  - (b) Fire damp,
  - (c) Chalk,
  - (d) Red lead or
  - (e) Lime?
4. What factors do the human body and the earth's surface have in common—that:
  - (a) Both are brown,
  - (b) Both have seasons,
  - (c) Both are  $\frac{2}{3}$  full of water,
  - (d) Both can think or
  - (e) Both are always fertile?
5. Electroencephalograph measures:
  - (a) The electrical current created by the cells in the human brain,

- (b) The electrical power,
  - (c) Heart beat,
  - (d) Nerve current or
  - (e) The relationship between wakefulness and sleep?
6. The chemical symbol for gold is:
- (a) Go,
  - (b) J,
  - (c) Au,
  - (d) Ua or
  - (e) G?
7. Which of the following planets from our solar system has the smallest diameter?
- (a) Pluto,
  - (b) Neptune,
  - (c) Venus,
  - (d) Mercury or
  - (e) Mars?
8. What is the name of the branch of mathematics that deals with differentiation and integration?
- (a) Geometry,
  - (b) Algebra,
  - (c) Trigonometry,
  - (d) Calculus or
  - (e) Graph?
9. Where is the Bhabha Atomic Research Centre situated?
- (a) Rajasthan,
  - (b) Trombay,
  - (c) Kashi,
  - (d) Near Mathura refinery or
  - (e) Tarapur?

- (c) Goats,
  - (d) Rabbits and
  - (e) Men?
8. For carrying out surveys of various natural resources using satellite imagery, scanner data from aircraft flying and serial photography, an autonomous body was set up under the name of:
- (a) NRSA,
  - (b) NISSAT,
  - (c) DST,
  - (d) NCST or
  - (e) CEL?
9. Which of the following is not a metal?
- (a) Paladium,
  - (b) Vanadium,
  - (c) Palium,
  - (d) Mercury or
  - (e) Brass?
10. Which of the following are now extinct?
- (a) Rhea,
  - (b) Dodo,
  - (c) Great Auk,
  - (d) Kiwi,
  - (e) Albatross,
  - (f) Ibis,
  - (g) Cassowary,
  - (h) Quetzal,
  - (i) Moa and
  - (j) Aepyornis.

1. Define:
  - (a) Chain reaction,
  - (b) Fission,
  - (c) Fusion,
  - (d) Atomic pile and
  - (e) Atomic energy.
3. What is ammonium carbonate commonly known as?
  - (a) Spirits of salt,
  - (b) Sal volatile,
  - (c) Alcohol,
  - (d) Plaster of Paris or
  - (e) Salts of lemon?
3. The erosion of earth through water from rivers, streams, rains, sea and so on is known as:
  - (a) Deforestation,
  - (b) Denudation,
  - (c) Ecology,
  - (d) Erosion or
  - (e) Separation?
4. The specific gravity of copper is:
  - (a) 7.95,
  - (b) 8.95,
  - (c) 9.95,
  - (d) 10.95 or
  - (e) 2.95?
5. Psychologically, what do these terms mean:
  - (a) Emotional insulation,
  - (b) Intellectualization,

- (c) Undoing,
  - (d) Regressing and
  - (e) Identification.
6. Minor planets which revolve round the sun between the orbits of Mars and Jupiter are known as:
- (a) Asteroids,
  - (b) Polaroids,
  - (c) Haemmoroids,
  - (d) Minoroids or
  - (e) Smalleroids?
7. India conducted its first successful underground nuclear experiment at Pokharan in Rajasthan on:
- (a) 16 May 1975,
  - (b) 18 May 1974,
  - (c) 16 May 1974,
  - (d) 18 May 1975 or
  - (e) 16 May 1973?
8. How many bones does the human skeleton contain?
- (a) 100,
  - (b) 150,
  - (c) 200,
  - (d) 250 or
  - (e) 300?
9. The vehicle which can move on all kinds of terrain is known as:
- (a) Multicraft,
  - (b) Hovercraft,
  - (c) Jeepcraft,
  - (d) Floatingcraft or
  - (e) Uniquecraft?
10. Which of the following are attracted by a magnet?
- (a) Iron,

- (b) Tin,
- (c) Copper,
- (d) Brass,
- (e) Nickel,
- (f) Osmium,
- (g) Gold,
- (h) Silver,
- (i) Magnesium and
- (j) Radium.

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1. H Davy discovered:

- (a) Magnesium, barium, calcium,
- (b) Aluminium, argon, boron,
- (c) Carbon, bromine, chlorine,
- (d) Chromium, bismuth, arsenic or
- (e) Iron, lead, manganese?

2. What is:

- (a) An ampere,
- (b) An Ohm,
- (c) A Volt,
- (d) A Coulomb and
- (e) A Farad?

3.  $\text{H}_3\text{PO}_4$  stands for:

- (a) Hydrogen sulphide,
- (b) Sulphuric acid,
- (c) Phosphoric acid or
- (d) Nitric acid?

4. The analysis to determine the kinds and amounts of

metal present in an ore or alloy is known as:

- (a) Analysis,
  - (b) Assaying,
  - (c) Nitration,
  - (d) Hydrogenation or
  - (e) Determination?
5. The chemical change in which a substance is eaten away is known as:
- (a) Polymerization,
  - (b) Corrosion,
  - (c) Oxidation,
  - (d) Synthesis or
  - (e) Osmosis?
6. What is common between Germany, Belgium, Scotland and France, apart from their being in the same continent (Europe):
- (a) They are members of the European Common Market.
  - (b) It is noon at these places when it is noon at Greenwich.
  - (c) They were once ruled by the same royal family.
  - (d) Their maximum contributions are to physics
7. Potassium nitrate is commonly known as:
- (a) Sal ammonia,
  - (b) Sal volatile,
  - (c) Salt petre,
  - (d) Spirits of salt or
  - (e) Vinegar?
8. Define the following neuroses:
- (a) Anxiety,
  - (b) Phobic,

- (c) Obsessive-Compulsive,
  - (d) Hysteria and
  - (e) Hypochondriac.
9. Which of the following is not found naturally in the atmosphere?
- (a) Argon,
  - (b) Krypton,
  - (c) Chlorine,
  - (d) Oxygen and
  - (e) Nitrogen.
10. (a) Which colour is safest at night—white, black or red?
- (b) What is the common name of the anvil bird?
  - (c) Where is the emu found?
  - (d) What is the other name for the butcher bird?
  - (e) Which of the following is the "odd-man-out"?
- (1) Mallard,
  - (2) Pintail,
  - (3) Blackbird and
  - (4) Teal.

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1. Which travels faster:
- (a) The fastest plane or the bullet?
  - (b) Light waves or wireless?
  - (c) Telephonic message or wireless message?
  - (d) Mars or earth?
2. To which plant families do the following belong:

- (a) Potato plant,  
(b) Tobacco plant,  
(c) Tomato plant,  
(d) Thorn plant and  
(e) Eggplant.
3. What are:  
(a) Monsoons,  
(b) Trade winds,  
(c) Simoons,  
(d) Fohn and  
(e) Sorocco?
4. Which of the following is a saprophyte?  
(a) A plant that grows in water.  
(b) A plant that lives on decaying vegetation.  
(c) An animal that lives on carcasses killed by other animals.  
(d) Bird food.  
(e) Antidote for snake bite?
5. Which of the following is the largest desert?  
(a) The Gobi,  
(b) The Sahara,  
(c) The Thar,  
(d) The Australian Desert or  
(e) The Pyrenees?
6. Which of the following is the "odd man out"?  
(a) Delphinium,  
(b) Lupin,  
(c) Marigold,  
(d) Peony and  
(e) Phlox.
7. Define the following:  
(a) Auditory aphasia,

- (b) Expressive aphasia,
  - (c) Nominal aphasia and
  - (d) Formulation aphasia.
8. Compared to what it was at the turn of the century, has the population of the earth today:
- (a) Doubled,
  - (b) Trebled,
  - (c) Multiplied itself six times,
  - (d) Stayed more or less constant or
  - (e) Multiplied tenfold?
9. A temperature of  $1300^{\circ}\text{C}$  is known as:
- (a) Red heat,
  - (b) White heat,
  - (c) Yellow heat,
  - (d) Green heat or
  - (e) Molten heat?
10. Which of the following diseases are a result of Vitamin A deficiency?
- (a) Diabetes,
  - (b) Malaria,
  - (c) Typhoid,
  - (d) Night blindness,
  - (e) Xerophthalmia,
  - (f) Goitre,
  - (g) Mumps,
  - (h) Sleeping sickness,
  - (i) Elephantiasis and
  - (j) Migraine?

1. Who of the following is responsible for modern nursing?
  - (a) Helen Keller,
  - (b) Anne Frank.
  - (c) Florence Nightingale.
  - (d) Sarojini Naidu.
  - (e) Emmeline Pankhurst.
2. Sir Geoffrey de Havilland is famous for designing:
  - (a) Ships,
  - (b) Aircrafts,
  - (c) Guns,
  - (d) The thermometer or
  - (e) The gas stove?
3. Which planet makes one rotation on its axis in 24 hours and 37 minutes?
  - (a) Mars,
  - (b) Earth,
  - (c) Pluto,
  - (d) Mercury or
  - (e) Venus?
4. Who invented the thermometer?
  - (a) Leonardo da Vinci,
  - (b) Galileo Galilei,
  - (c) Lord Fahrenheit,
  - (d) Henri Centigrade or
  - (e) Edward Jenner?
5. What do the following have in common:
  - (a) Brahmins,

- (b) Dravidians,
  - (c) Koles,
  - (d) Bheels and
  - (e) Gurkhas?
6. The nation which first sent an animal into orbit round the earth is:
- (a) The USA,
  - (b) The USSR,
  - (c) China,
  - (d) The UK or
  - (e) Japan?
7. An ocean valley whose floor is at least 18,000 feet below the surface is known as the:
- (a) Valley,
  - (b) Deep,
  - (c) Bed,
  - (d) Basin or
  - (e) Bottom?
8. What would be the IQ of people with:
- (a) Mild mental retardation,
  - (b) Moderate mental retardation,
  - (c) Severe mental retardation and
  - (d) Profound mental retardation.
9. Which of the following is the "odd man out"?
- (a) Gladiolus,
  - (b) Daffodils,
  - (c) Hyacinth,
  - (d) Snowdrop and
  - (e) Tulip.
10. (a) What is the popular name for Coleoptera?  
 (b) From what has this word been derived?  
 (c) How many known species of Coleoptera are there?

(d) What are:

- (1) Diptera,
- (2) Lepidoptera,
- (3) Neuroptera,
- (4) Orthoptera and
- (5) Hymenoptera?

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1. The best examples of marsupials are:

- (a) Kangaroos,
- (b) Skunks,
- (c) Skinks,
- (d) Opposums or
- (e) Alligators?

2. The first woman astronaut to space was sent in:

- (a) 1963,
- (b) 1966,
- (c) 1961,
- (d) 1965 or
- (e) 1960?

3. That part of the ocean bottom which extends from the coastland outwards is called:

- (a) Continental shelf,
- (b) Sleeve,
- (c) Hangar,
- (d) Reef or
- (e) Island?

4. Biscupials are:

- (a) Lower biceps,

- (b) Teeth,
  - (c) Lower tendons,
  - (d) Artificial dentures or
  - (e) Boxing gloves?
5. The characteristics of parents are handed on to the child through:
- (a) Deutoplasm,
  - (b) Cytoplasm,
  - (c) Germplasm,
  - (d) Ectoplasm or
  - (e) Protoplasm?
6. (a) How does a diesel engine work?
- (b) Does it work on the same lines as:
- (1) An internal combustion engine,
  - (2) An external combustion engine,
  - (3) A jet engine,
  - (4) A hovercraft or
  - (5) A submarine?
7. (a) What is a comet?
- (b) Which is the best known comet?
- (c) Who saw it first and when?
- (e) What are zenith and Nadir ?
8. The sun reaches its highest point in the northern hemisphere on about:
- (a) June 21st,
  - (b) May 21st,
  - (c) January 21st,
  - (d) April 21st or
  - (e) December 21st?
9. What are the offspring of the following called:
- (a) Beaver,
  - (b) Bcar,

- (c) Camels,
- (d) Seals and
- (e) Eagle?

0. Which of the following have backbones:

- (a) Amoeba,
- (b) Beetle,
- (c) Caterpillar,
- (d) Snake,
- (e) Clam,
- (f) Cockroach,
- (g) Alligator,
- (h) Lobster,
- (i) Lizard and
- (j) Roundworm.

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1. Substances produced by certain glands in the human body and passed by them into the blood system are known as:

- (a) Cells,
- (b) Hormones,
- (c) Red blood corpuscles,
- (d) White blood corpuscles or
- (e) Enzymes?

2. The Tarapur Atomic Power Station is in:

- (a) Rajasthan,
- (b) Madhya Pradesh,
- (c) Orissa,
- (d) Maharashtra or

- (e) Assam?
3. Which of the following is the "odd man out?"
- (a) Gladiolus,
  - (b) Lily,
  - (c) Narcissus,
  - (d) Phlox and
  - (e) Crocus.
4. A part of a body of water extending into the land is called:
- (a) Bar,
  - (b) Atoll,
  - (c) Bay,
  - (d) Basin or
  - (e) Island?
5. To which metal does the ore Galena belong?
- (a) Nickel,
  - (b) Tin,
  - (c) Zinc,
  - (d) Lead or
  - (e) Copper?
6. The back of the head is known as:
- (a) Occiput,
  - (b) Lilliput,
  - (c) Cerebellum,
  - (d) Ulna or
  - (e) Clavicle?
7. What do Sirius, Canopus, and Vega have common ?  
Are they:
- (a) Galaxies,
  - (b) Stars,
  - (c) Zodiacal signs,
  - (d) Constellations or

- (e) Meteors?
8. Voyeurism is:
- (a) Scotophilia,
  - (b) Inspectionalism,
  - (c) Achievement of sexual pleasure through clandestine peeping,
  - (d) Achievement of sexual pleasure through open peeping or
  - (e) Achievement of sexual pleasure through permitted peeping?
9. 80% gold mixed with 20% Silver makes:
- (a) German Silver,
  - (b) Brass,
  - (c) Nickel,
  - (d) Tungsten or
  - (e) Electrum?
10. With what are the following associated:
- (a) Daimler,
  - (b) Benz,
  - (c) Lilienthal,
  - (d) Hertz,
  - (e) Santos-Dumont,
  - (f) Forman,
  - (g) Otto,
  - (h) Scot Montagu,
  - (i) The Wright Brothers and
  - (j) Fleming?

1. The study of forms of living organism and their environment is called:
  - (a) Spelaeology,
  - (b) Phenology,
  - (c) Escatology,
  - (d) Ostelogy or
  - (e) Nosology?
2. Silver is considered to be the best conductor of heat. Assuming its conductivity to be 100, what would be the relative conductivity of:
  - (a) Nickel,
  - (b) Platinum,
  - (c) Tin,
  - (d) Lead and
  - (e) Mercury?
3. What do the following abbreviations stand for:
  - (a) SITE,
  - (b) STEP,
  - (c) ARISE,
  - (d) BARC and
  - (e) SAC?
4. How many million years ago were the Himalayas formed?
  - (a) 25,
  - (b) 42,
  - (c) 8,
  - (d) 50 or
  - (e) 100?

5. Trypanosoma is the scientific name for:
- (a) Cockroaches,
  - (b) Lemurs,
  - (c) The Tse tse,
  - (d) The flying fox or
  - (e) Bats?
6. The name of the ship in which James Cook sailed around the world between 1768 and 1771 was:
- (a) The Endeavour,
  - (b) The Triumph,
  - (c) The Great Gatsby,
  - (d) The Yellow Nancy or
  - (e) The Undaunted?
7. A skink is a:
- (a) Small skunk,
  - (b) Small African lizard,
  - (c) Thick bad odour,
  - (d) Thick strand of sheep's wool or
  - (e) Small spanner?
8. All the chemical processes which take place in an organism are called:
- (a) Catabolism,
  - (b) Metabolism,
  - (c) Anabolism or
  - (d) Filtration?
9. (a) How does a jet engine work?  
(b) Who from the following invented it:
- (1) Samuel Hannemann,
  - (2) Frank Whittle,
  - (3) Wright Brothers,
  - (4) Henri Giffard or
  - (5) M Faraday?

10. Which of the following are joint-legged animals:

- (a) Ant lions,
- (b) Lacei wings,
- (c) Cicadas,
- (d) Lobsters,
- (e) Dragon-flies,
- (f) Lampreys,
- (g) Crayfishes,
- (h) Prawns,
- (i) Shrimps and
- (j) Hedgehogs.

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1. Sleeping sickness is conveyed to human beings through:

- (a) Fleas chiefly found on rats,
- (b) Tse tse flies,
- (c) Contaminated water,
- (d) Mosquitoes or
- (e) Crowded sleeping?

2. What is :

- (a) Metabolism,
- (b) Anabolism and
- (c) Catabolism?

3. The Narora Atomic Power Station is being constructed at:

- (a) Rajasthan,
- (b) Madhya Pradesh,

- (c) Gujarat,
  - (d) Uttar Pradesh or
  - (e) Orissa?
4. (a) What is oxygen?
- (b) How is it produced in laboratories?
- (c) What is carbon dioxide?
- (d) How is it useful in the balance of life?
- (e) What are its common uses?
5. A four-sided plane figure having only parallel sides is known as:
- (a) Parallelopiped,
  - (b) Cone,
  - (c) Trapezium,
  - (d) Rhombus or
  - (e) Parallelogram?
6. The name given to the windpipe extending from the mouth to the lungs is:
- (a) Trachea,
  - (b) Clavicle,
  - (c) Gullet,
  - (d) Ulna or
  - (e) Femur?
7. A body in the heavens which is self-lighted is known as:
- (a) Luminant,
  - (b) Star,
  - (c) Fluorescent,
  - (d) Comet or
  - (e) Nova?
8. Rocks made by solidification of molten metal are called:
- (a) Sedimentary,

- (b) Metamorphic,
- (c) Ignious,
- (d) Metallic or
- (e) Anthracite?

9. Fetishism is:

- (a) Deriving sexual pleasure through inanimate objects,
- (b) Deriving sexual pleasure through natural love-making,
- (c) Deriving sexual pleasure through rape,
- (d) Deriving sexual pleasure through sodomy or
- (e) Being extremely fat?

10. As per their speed over a short distance arrange the following:

- (a) Aeroplane,
- (b) Coronation Scott,
- (c) Sloth,
- (d) Sword-fish,
- (e) Eagle,
- (f) Hundred-yard sprinter,
- (g) Ice Skater,
- (h) Greyhound,
- (i) Speedboat and
- (j) Kangaroo.

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1. When it is 8.00 AM at Singapore, at Greenwich it is:

- (a) 8 PM,
- (b) 8 AM,

- (c) 4 PM,
  - (d) Noon or
  - (e) 6 PM?
2. A deep vertical crack in a glacier is called:
- (a) Crevasse,
  - (b) An Impasse,
  - (c) A Suture or
  - (d) A Scissor?
3. The Madras Atomic Power Station is being constructed at:
- (a) Madras,
  - (b) Coimbatore,
  - (c) Kalpakkam,
  - (d) Tiruchirapally or
  - (e) Vellore?
4. The most accepted theory of the origin of the earth maintains that it was once:
- (a) A part of the Sun,
  - (b) A part of Jupiter,
  - (c) A part of Mars,
  - (d) An autonomous body or
  - (e) A part of the Moon?
5. The initial DC stands for:
- (a) Direct Current,
  - (b) Direct Connected,
  - (c) Digitally Correspondent or
  - (d) Detonator Charge?
6. The planet Saturn makes one rotation on its axis in:
- (a) 10 hours, 49 minutes,
  - (b) 10 hours, 14 minutes,
  - (c) 2 hours,
  - (d) 2 hours, 30 minutes or

- (e) 6 hours, 30 minutes?
7. As per their existence in history, arrange the following:
- (a) Aztecs,
  - (b) Cretans,
  - (c) Greeks,
  - (d) Persians and
  - (e) Sumerians.
8. From what source are the following derived?
- (a) Rayan,
  - (b) Alpaca,
  - (c) Muslin,
  - (d) Linen and
  - (e) Fannel.
9. Sadism is:
- (a) Deriving sexual pleasure through the infliction of pain,
  - (b) Being extremely sad,
  - (c) Believing in being always sad,
  - (d) Deriving sexual pleasure through fetishism or
  - (e) Voyeurism?
10. What parts of the body are affected by:
- (a) Bright's disease,
  - (b) Otitis,
  - (c) Cancer,
  - (d) Cataract,
  - (e) Sinusitis,
  - (f) Pericarditis,
  - (g) Phlebitis,
  - (h) Sciatica,
  - (i) Varicose and
  - (j) Thrush?

1. Which of the following is not a planet?
  - (a) Pluto,
  - (b) Moon,
  - (c) Venus,
  - (d) Earth or
  - (e) Mars?
2. The Tarapur Atomic Power Station was commissioned in :
  - (a) 1965,
  - (b) 1966,
  - (c) 1967,
  - (d) 1968 or
  - (e) 1969?
3. Masochism is:
  - (a) Deriving sexual pleasure through infliction of pain on others,
  - (b) Deriving sexual pleasure through infliction of pain on self,
  - (c) Sadism,
  - (d) A political thought or
  - (e) A way to govern?
4. Of the four atomic powers stations in the country, how many of them are working?
  - (a) One,
  - (b) Two,
  - (c) Three,
  - (d) Four or
  - (e) None?

5. The swan goose and duck belong to which of the following orders?
- (a) Galliformes,
  - (b) Strigiformes,
  - (c) Apodiformes,
  - (d) Anseriformes or
  - (e) Pisciformes?
6. How many feet make a nautical mile?
- (a) 6000,
  - (b) 6050,
  - (c) 6075,
  - (d) 6080 or
  - (e) 6180?
7. (a) Which nation first sent chimpanzee into orbit round the earth?
- (b) What was the name of the most publicised American chimpanzee?
- (c) Which nation first put man into space?
- (d) What was the man's name?
- (e) Who was the first man to walk in space?
8. In how many days does the planet Neptune make one revolution around the sun?
- (a) 88,
  - (b)  $365\frac{1}{4}$ ,
  - (c) 90,400,
  - (d) 60,127 or
  - (e) 100 ?
9. Phlebitis affects :
- (a) The sciatic nerve,
  - (b) The veins,
  - (c) The legs,
  - (d) The mouth and the throat or

(e) The nails?

10. Which of the following are found in the atmosphere naturally?

- (a) Nitrogen,
- (b) Oxygen,
- (c) Methane,
- (d) Chlorine,
- (e) Argon,
- (f) Carbon monoxide,
- (g) Neon,
- (h) Helium,
- (i) Krypton and
- (j) Sulphur dioxide.

33

1. The term Scrophulariaceae belongs to the science of:

- (a) Zoology,
- (b) Meteorology,
- (c) Botany,
- (d) Chemistry or
- (e) Archaeology?

2. The uninhabitable land surface of the earth is approximately:

- (a) A quarter of the whole,
- (b) A half of the whole,
- (c)  $\frac{3}{8}$ th of the whole,
- (d)  $\frac{6}{10}$ th of the whole or
- (e)  $\frac{3}{4}$ th of the whole?

3. The spaceship in which Neil Armstrong first travelled

to space in March 1966 was called :

- (a) Gemini 8,
- (b) Skystar 2,
- (c) Apollo 6,
- (d) Summit 7,
- (e) Fireball 4?

4. From north to south, India measures (approximately):

- (a) 3001 kms,
- (b) 3214 kms,
- (c) 4214 kms,
- (d) 3600 kms or
- (e) 4000 kms?

5. Who from the following invented the Slide Rule?

- (a) William Slide,
- (b) William Oughtred,
- (c) William Slidington,
- (d) William Rule or
- (e) William Makepeace Thackeray?

6. Where in the following areas can that house be situated whose every window will point due south?

- (a) The Equator,
- (b) The North Pole,
- (c) The South Pole,
- (d) Southern Hemisphere or
- (e) Northern Hemisphere?

7. The offspring of a cow is called a calf. What are the offspring of the following called: "

- (a) Fallow deer,
- (b) Game bird,
- (c) Goose,
- (d) Goat and
- (e) Roe-deer?

8. TAT stands for:
- (a) Thematic Appreciation Test,
  - (b) Thematic Apperception Test,
  - (c) That And That,
  - (d) These And Those or
  - (e) Thematic And Training?
9. (a) What is the "Black Body",
- (b) How does it help scientists in their investigations?
  - (c) What is absolute Zero?
  - (d) By what scale is it measured?
  - (e) How is it converted into centigrade?
10. Which of the following are planets?
- (a) Uranus,
  - (b) Pluto,
  - (c) Saturn,
  - (d) Pollux,
  - (e) Sirius,
  - (f) Vega,
  - (g) Betelgeuse,
  - (h) Mars,
  - (i) Rigel and
  - (j) Capilla.

34

1. The term Dolichocephalic belongs to the science of:
- (a) Sociology,
  - (b) Botany,
  - (c) Anthropology,
  - (d) Astronomy or

- (e) Geology?
2. Which of the following is a communicable disease?
- (a) Gout,
  - (b) Cancer,
  - (c) Lumbago,
  - (d) Consumption and
  - (e) Leukaemia.
3. What great astronomer was born at Thorn (Poland) in 1473?
- (a) Tycho Brahe,
  - (b) Nicholas Copernicus,
  - (c) Alexander Copernicus,
  - (d) Galileo or
  - (e) Leonardo da Vinci?
4. Barbiturates are a kind of:
- (a) Synthetic sedative drugs,
  - (b) Barber's lotions,
  - (c) Visit to the barber,
  - (d) Synthetic vitamins or
  - (e) Synthetic birth control pills?
5. Mammals whose young are born in an imperfect state and are carried in a pouch by the mother until fully developed are known as:
- (a) Marsupials,
  - (b) Mammalia,
  - (c) Pouch bearers,
  - (d) Pre-developed or
  - (e) Mapouchia?
6. How many acres does a square mile have?
- (a) 600,
  - (b) 640,
  - (c) 840,

- (d) 360 or  
(e) 400?
7. Friedrich Serturmer is famous for discovering:  
(a) Flouride,  
(b) Hexachlorophene,  
(c) Morphine,  
(d) Toxin or  
(e) Vitamin E?
8. The Satellite Tracking and Ranging Station was inaugurated at Kavalur (Tamil Nadu) on:  
(a) 23 January 1975,  
(b) 23 January 1976,  
(c) 23 January 1977,  
(d) 23 January 1978,  
(e) 23 January 1979?
9. How many tonnes does a ton have?  
(a) 1,  
(b) 1.421,  
(c) 1.016,  
(d) 1.046 or  
(e) 1.222?
10. In the field of psychology, what is the contribution of:  
(a) Freud,  
(b) Charcot,  
(c) Binet-Simon,  
(d) Spearman,  
(e) Adler,  
(f) Burt,  
(g) Kohler,  
(h) McDougall,  
(i) FWH Myers and  
(j) Pavlov?

1. Goitre is produced by:
  - (a) Surplus hormones,
  - (b) Deficient hormones,
  - (c) Breathing hard,
  - (d) Smoking too much or
  - (e) Sudden emotional shocks?
2. Brainwashing refers to:
  - (a) Cleaning of hair,
  - (b) Extreme form of thought modification and control,
  - (c) Extremely clean hair,
  - (d) Washing the dead man's brain for clinical purposes or
  - (e) Washing with reasons?
3. The Lunar Eclipse is caused by:
  - (a) The shadow of the earth on the sun,
  - (b) The shadow of the moon on the sun,
  - (c) The shadow of the earth on the moon or
  - (d) The moon coming between the earth and the sun?
4. Which of the following is an explosive?
  - (a) TNT,
  - (b) DNB,
  - (c) DNT,
  - (d) Amatol or
  - (e) Cordite?

5. The doldrums are a belt of:
- (a) Low pressure round the equator,
  - (b) High pressure round the equator,
  - (c) Low pressure north of the equator,
  - (d) High pressure south of the equator or
  - (e) Rainbearing clouds?
6. 90% Copper mixed with 10% Tin makes:
- (a) Bronze,
  - (b) Brass,
  - (c) Mild Steel,
  - (d) German Silver or
  - (e) Nickel?
7. What is:
- (a) Agoraphobia,
  - (b) Claustrophobia,
  - (c) Amnesia,
  - (d) Paranoia and
  - (e) Aphasia?
8. (a) What is the two-humped camel called?  
(b) Where are giant pandas found?  
(c) What is the name of the badger's home?  
(d) What is the name of a baby hare?  
(e) Has the whooping crane become extinct?
9. The classification of diseases is done in the science of:
- (a) Osteology,
  - (b) Nosology,
  - (c) Biology,
  - (d) Spaleology or
  - (e) Biology?
10. Which of the following are poisonous gases?
- (a) Thermite,
  - (b) Phosphorite,

- (c) Lewisite,
- (d) Kermite,
- (e) TNT,
- (f) Dynamite,
- (g) BBC,
- (h) Phosgene,
- (i) OED and
- (j) Chlorine.

## 36

1. The projection centred on any latitude which lies between the pole and the equator is known as:
  - (a) Conformal,
  - (b) Oblique case,
  - (c) Parallel,
  - (d) Earth Grid or
  - (e) Hemisphere?
2. Which of the following is not a communicable disease?
  - (a) Diphtheria,
  - (b) Syphilis,
  - (c) Scarlet fever,
  - (d) Bronchitis or
  - (e) Measles?
3. Enuresis means:
  - (a) Bed-wetting,
  - (b) Involuntary discharge of urine,
  - (c) Diseases of the nose,
  - (d) Diseases of the ear, or
  - (e) Diseases of the eye?

4. The Vikram Sarabhai Space Centre is situated at:  
(a) Trombay,  
(b) Bombay,  
(c) Trivandrum,  
(d) Tiruchirapalli or  
(e) Kalpakkam?
5. The telescope was invented by:  
(a) Hans Lippersney,  
(b) Heinrich Sturgeon,  
(c) G Marconi,  
(d) Galileo Galilee or  
(e) Albert Einstein?
6. The normal pulse rate of the human body is:  
(a) 70 per minute,  
(b) 20 per minute,  
(c) 72 per minute,  
(d) 22 per minute or  
(e) 54 per minute?
7. The first atomic bomb was dropped on 25 August 1945 at Hiroshima. The bomb was developed by a group of scientists headed by:  
(a) Enrico Fermi  
(b) Otto Hahn  
(c) Robert Oppenheimer  
(d) Lord Rutherford or  
(e) Albert Einstein?
8. How many drams does an ounce have:  
(a) 10,  
(b) 12,  
(c) 14,  
(d) 16 or  
(e) 18?

9. Hemophobia is:

- (a) Pathological fear of blood,
- (b) A disease which does not allow blood-clotting,
- (c) Pathological fear of bones,
- (d) Pathological fear of hemlines or
- (e) A disease which does not allow the hair to stand?

10. What is the average number of the offspring of the following:

- (a) Cat,
- (b) Dog,
- (c) Cow,
- (d) Sheep,
- (e) Pig,
- (f) Rabbit,
- (g) Horse,
- (h) Mouse,
- (i) Mule, and
- (j) Donkey.

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1. Which of the following is a communicable disease?

- (a) Cancer,
- (b) Rheumatism;
- (c) Bronchitis,
- (d) Diphtheria or
- (e) Diabetes?

2. The deepest "deep" in the world is the Phillippine Deep.

How many feet deep is it:

- (a) 36,000,
- (b) 35,000,
- (c) 34,000,
- (d) 30,000 or
- (e) 3,000?

3. The pendulum clock was invented by:

- (a) E. Troricell
- (b) C. Huygens
- (c) F. Appett
- (d) R. Trevithick or
- (e) A. Nobel?

4. The Tarapur Atomic Power Station was the first Indian nuclear power station. How many megawatts is it?

- (a) 400,
- (b) 220,
- (c) 420,
- (d) 620 or
- (e) 820?

5. (a) How is cement manufactured?

(b) Which of the following is Clinker?

- (1) Cement after being ground,
- (2) Red cement,
- (3) Dry Slurry,
- (4) Crushed clay and chalk or
- (5) Black limestone?

6. The mass of the sun is:

- (a) 1,998,000 tons,
- (b) 1,998,000,000 tons,
- (c) 1,998,000,000,000 tons,
- (d) 1,998,000,000,000,000,000,000,000 tons or

- (e) 1,998 tons?
7. The microphone was invented by:  
(a) Thomas Alva Edison,  
(b) Benjamin Franklin,  
(c) Alexander Graham Bell,  
(d) John Bell or  
(e) Albert Einstein?
8. Where in the following areas can a house be situated whose every window will point due north?  
(a) The Equator,  
(b) The North Pole,  
(c) The South Pole,  
(d) The Southern Hemisphere or  
(e) The Northern Hemisphere?
9. Dermatitis refers to:  
(a) Skin inflammation,  
(b) Draperies,  
(c) Inflammation in the eyes,  
(d) Dropped eggs or  
(e) Inflammation in the ears?
10. Which of the following are not chemists:  
(a) Carl A Anderson,  
(b) Homi J Bhabha,  
(c) Leo H Baekeland,  
(d) Karl E von Baer,  
(e) Adolph von Baeyer,  
(f) Edward E Barnard,  
(g) William Beaumont,  
(h) Antoine Henri Becquerel,  
(i) Liberty H Bailey and  
(j) Jean L. Agassiz.

1. How many bushels will you find in a gallon?
  - (a) 7,
  - (b) 8,
  - (c) 9,
  - (d) 4 or
  - (e) 1?
2. The rate of a man's heartbeat is about 70 to 80 per minute. What is that of:
  - (a) Elephants,
  - (b) Oxen,
  - (c) Pigs,
  - (d) Dogs and
  - (e) Cats?
3. Orthoptera is the scientific name for:
  - (a) Grasshoppers,
  - (b) Butterflies,
  - (c) Moths,
  - (d) Houseflies or
  - (e) Ants?
4. Is it true that in the Antarctica:
  - (a) It never stops freezing?
  - (b) No rain falls there?
  - (c) There is more sunshine there than in the sunniest part of England?
  - (d) The land is covered with flowering plants during the sunny months?
  - (e) The average height of the continent is over 6000 feet?

5. What is the transit of Venus? On which of the following dates will it occur again?

- (a) June 8th, 2004 AD,
- (b) June 8th, 4002 AD,
- (c) January 8th, 2004 AD or
- (d) January 8th, 4002 AD?

6. Match the following lists:

“A”

“B”

- |                  |   |
|------------------|---|
| (a) Psychosis    | (1) Instrument for recording heartbeats |
| (b) Cardiogram   | (2) Emotional disturbances              |
| (c) Neurosis     | (3) Treatment of personality disorders  |
| (d) Psychiatrist | (4) Mental unbalance                    |
| (e) Cardiograph  | (5) Record of heartbeat                 |

7. A rough, steep rock or point of rock is called:

- (a) A crag,
- (b) A popsicle,
- (c) A steep,
- (d) A pointer or
- (e) A lighthouse?

8. The number of national laboratories in India totals:

- (a) More than 200,
- (b) More than 300,
- (c) More than 129,
- (d) More than 229 or
- (e) More than 329?

9. The positive, heavy particle of the nucleus of an atom is called:

- (a) A neutron,
- (b) A nuclear,
- (c) A proton,

- (d) An electron or
  - (e) A nucleus?
10. Which of the following are not elements? Is it:
- (a) Aluminium,
  - (b) Calcium,
  - (c) Opium,
  - (d) Cerunn,
  - (e) Erbium,
  - (f) Lawrencium,
  - (g) Molybdenum,
  - (h) Palladium,
  - (i) Rhendium and
  - (j) Rhodium.

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1. Sinusitis affects:
- (a) The pericardium around the heart,
  - (b) The cavities in the teeth,
  - (c) The cavities behind the nose,
  - (d) The eyeballs or
  - (e) The ankles?
2. How many cubic inches make a cubic foot?
- (a) 1628,
  - (b) 1728,
  - (c) 2222,
  - (d) 4444 or
  - (e) 6666?
3. (a) What is hydrogen?
- (b) What are its distinguishing characteristics?

- (c) In how many known ways is it used?
  - (d) What is nitrogen?
  - (e) What are its distinguishing characteristics?
4. A dentist who has qualified for postgraduate work in the straightening of teeth is known as a:
- (a) BDS,
  - (b) Dentist,
  - (c) Orthodontist,
  - (d) ENT specialist or
  - (e) Plastic surgeon?
5. What do Cavendish, Faraday and Galvani have in common? They
- (a) Belong to the same country,
  - (b) Made important discoveries about electricity
  - (c) Made special electric batteries,
  - (d) Became responsible for the electrification of railways or
  - (e) Happened to be first cousins?
6. How many horse power per square feet is the energy radiated by the sun:
- (a) 15,000,
  - (b) 1500,
  - (c) 150,
  - (d) 1,50,000 or
  - (e) 15,00,000?
7. The Indian Atomic Energy Commission was set up in:
- (a) August 1949,
  - (b) August 1950,
  - (c) August 1948,
  - (d) August 1947 or
  - (e) August 1951?
8. Which planet takes the same time in making one

revolution round the Sun and one rotation on its axis:

- (a) Jupiter,
  - (b) Uranus,
  - (c) Saturn,
  - (d) Mercury or
  - (e) Mars?
9. How many degrees Fahrenheit is  $100^{\circ}\text{C}$  equal to?
- (a)  $100^{\circ}$ ,
  - (b)  $112^{\circ}$ ,
  - (c)  $200^{\circ}$ ,
  - (d)  $212^{\circ}$  or
  - (e)  $414^{\circ}$ ?
10. Which of the following are derived from petroleum?
- (a) Paraffin,
  - (b) Natron,
  - (c) Naphtha,
  - (d) Petrol,
  - (e) Paraldehyde,
  - (f) Kerosene,
  - (g) Chlorine,
  - (h) Rhenium,
  - (i) Novocaine and
  - (j) Vaseline.

40

1. The specialist who tests your eyes to find out the kind of glass you need is known as:
- (a) Eye surgeon,

- (b) Orthometrist,
  - (c) Optometrist,
  - (d) Ocultist or
  - (e) Osteopath?
2. How many centimetres does an inch have?
- (a) 2,
  - (b) 2.5,
  - (c) 2.54,
  - (d) 2.75 or
  - (e) 2.84?
3. Who from the following invented the long playing record:
- (a) Peter Longman,
  - (b) Peter Goldmark,
  - (c) Peter Tom,
  - (d) Peter Hitchcock or
  - (e) Peter Townsend?
4. The specialist who specialises in the study of bones and blood vessels is known as an:
- (a) Osteopath,
  - (b) Chiropractor,
  - (c) Orthodontist,
  - (d) Optometrist or
  - (e) Graphologist?
5. Deficiency in the hormones of the thyroid gland:
- (a) Slows down the activity of the body,
  - (b) Makes the person overactive,
  - (c) Does not cause any noticeable change,
  - (d) Makes the person weep a great deal or
  - (e) Produces goitre?
6. Tungsten filament lamp was invented by:
- (a) C Sholes?

- (b) I Langmuir?
  - (c) Otto van Guericks?
  - (d) J N Niepce?
  - (e) R Whitehead?
7. SITE was a year-long experiment in direct broadcasting of TV programmes via the NASA Satellite numbered:
- (a) ATS-2,
  - (b) ATS-6,
  - (c) ATS-5,
  - (d) ATS-4, or
  - (e) ATS-3?
8. What are hafnium, helium and holmium:
- (a) Compounds,
  - (b) Elements,
  - (c) Rocks,
  - (d) Acids or
  - (e) Alkalis?
9. The boiling point of chlorine at 760 mm pressure is:
- (a)  $-30^{\circ}\text{C}$ ,
  - (b)  $-50^{\circ}\text{C}$ ,
  - (c)  $-70^{\circ}\text{C}$ ,
  - (d)  $70^{\circ}\text{C}$  or
  - (e)  $33.60^{\circ}\text{C}$ ?
10. What do these countries have in common, apart from being in the same continent:
- (a) Germany,
  - (b) Belgium,
  - (c) Hungary,
  - (d) Denmark,
  - (e) Scotland,
  - (f) Gibraltar,

- (g) Portugal,
- (h) Spain,
- (i) Norway and
- (j) France?

## 41

1. Animals of every description are studied by:
  - (a) A zoologist,
  - (b) A biologist,
  - (c) An anthropologist,
  - (d) A geologist or
  - (e) An astronomer?
2. The power delivered by an agent, while doing work at the rate of 550 foot-pound per second, is known as:
  - (a) Foot-pound power,
  - (b) Horse power,
  - (c) Mill power,
  - (d) Centrifugal force or
  - (e) Tonne power?
3. The ore Cassiterite belongs to the metal:
  - (a) Zinc,
  - (b) Tin,
  - (c) Silver,
  - (d) Magnesium or
  - (e) Lead?
4. What is the clavicle?
  - (a) The Thigh bone,
  - (b) Collar bone,
  - (c) Wrist bone,

- (d) Sound box or
- (e) Ear drum?
- 5. Which of the following burn with flame?
  - (a) Chalk,
  - (b) Oil of vitriol,
  - (c) Hydrogen,
  - (d) Magnesium or
  - (e) Wood?
- 6. A base that is soluble in water is known as:
  - (a) A salt,
  - (b) An acid,
  - (c) An alkali,
  - (d) Sugar or
  - (e) Crystal?
- 7. (a) What is gonorrhoea?
  - (b) How is it caused?
  - (c) What are its symptoms?
  - (d) How can it be prevented?
- 8. Bright's disease affects:
  - (a) The ears,
  - (b) The eyes,
  - (c) The kidneys,
  - (d) The stomach or
  - (e) The liver?
- 9. Is it true that:
  - (a) A bat is a bird?
  - (b) A bee has six legs?
  - (c) A snowflake is lighter than a raindrop?
  - (d) Walter Raleigh introduced tobacco in England?
- 10. To what branch of science do the following terms belong:

- (u) Isobars,
- (b) Dolichocephalic,
- (c) Oedipus complex,
- (d) Exogamy,
- (e) Scrophulariaceae,
- (f) Chromosomes,
- (g) Trephine,
- (h) Mantissa,
- (i) Angle of refraction and
- (j) Titration.

42

1. Who invented the motion picture camera?
  - (a) Edison,
  - (b) Brequet,
  - (c) Montgolfier,
  - (d) Friesse-Greene or
  - (e) du Pont?
2. Which of the following is not an instinctive action?
  - (a) Playing of the cat with the mouse.
  - (b) Nest-building by the birds.
  - (c) Drawing back the hand from the fire.
  - (d) Building of a web by the spider.
  - (e) The infant sucking at his mother's breast.
3. The known constellations number about:
  - (a) 100,
  - (b) 200,
  - (c) 88,
  - (d) 888 or

- (e) 188?
4. Charles E Bessey: Botany as (?) Marie E Bichat
- (a) Physiology,
  - (b) Physics,
  - (c) Psychiatry,
  - (d) Botany or
  - (e) Chemistry?
5. Define:
- (a) Ultra-violet rays,
  - (b) Infra-red rays,
  - (c) X-rays,
  - (d) Aberration and
  - (e) Colophon.
6. The offspring of a lion is called a cub. What are the offspring of the following called:
- (a) Oyster,
  - (b) Pigeon,
  - (c) Turkey,
  - (d) Swan and
  - (e) Wild fowl?
7. SITE was a year-long experiment lasting from:
- (a) 1 August 1970 to 31 July 1971,
  - (b) 1 August 1971 to 31 July 1972,
  - (c) 1 August 1973 to 31 July 1974,
  - (d) 1 August 1974 to 31 July 1975 or
  - (e) 1 August 1975 to 31 July 1976?
8. What is the chemical symbol for lead:
- (a) Li,
  - (b) Pb,
  - (c) Lu,
  - (d) Po or
  - (e) Np?

9. One of the many rod-like substances in the nucleus of a cell is known as:
- (a) Chromosome,
  - (b) Cell,
  - (c) Nucleus,
  - (d) Proton or
  - (e) Cyst?
10. What did the following discover or invent?
- (a) John Napier,
  - (b) William Harvey,
  - (c) The Curies,
  - (d) Gregor Mendel,
  - (e) Copernicus,
  - (f) Ronald Ross,
  - (g) Henry Cavendish,
  - (h) Lavoisier,
  - (i) J J Thomson and
  - (j) Edward Jenner.

## 43

1. Psychology: Alfred Binet as Joseph Black: (?)
- (a) Botany.
  - (b) Optics,
  - (c) Chemistry,
  - (d) Zoology or
  - (e) Biology?
2. What does the term "bush" refer to?
- (a) A small ambush,
  - (b) A measure which is half a bushel,

- (c) The signal for attack among the Zulus,
  - (d) A region covered with forest or scrub, not yet cleared for cultivation or
  - (e) An African slang word?
3. Food preservative was invented by:
- (a) Henri Gifford,
  - (b) F Appett,
  - (c) Murdock,
  - (d) Addison or
  - (e) Brequet?
4. A small waterfall is called:
- (a) Waterlet,
  - (b) Waterling,
  - (c) Cascade,
  - (d) Rivulet or
  - (e) Shower?
5. When was television transmission started in India?
- (a) 1959,
  - (b) 1962,
  - (c) 1965,
  - (d) 1968 or
  - (e) 1970?
6. What is:
- (a) A watt,
  - (b) Atmosphere,
  - (c) A thermal unit,
  - (d) A therm and
  - (e) A calorie?
7. What is:
- (a) Lithosphere,
  - (b) Stratosphere,
  - (c) Troposphere,

- (d) Ionosphere and  
(e) Hydrosphere?
8. What does a hydrometer measure?  
(a) Specific gravity,  
(b) Hide for leatherwork,  
(c) Weight,  
(d) Specific weight or  
(e) Specific heat?
9. When was India's first satellite, ARYABHATT, launched? Was it on:  
(a) 19 April 1974?  
(b) 16 April 1875?  
(c) 19 April 1975?  
(d) 16 April 1974?  
(e) 14 April 1976?
10. Arrange the following two lists in such a way that against each name is the relevant invention/discovery:
- |                       |   |
|-----------------------|---|
| (1) Hargreaves,       | (a) Steam engine.                             |
| (2) James Watt,       | (b) Abstraction of phosphorous from iron ore, |
| (3) Stephenson,       | (c) Aniline dyes,                             |
| (4) Gilchrist Thomas, | (d) Open hearth furnace,                      |
| (5) Cort,             | (e) Canals,                                   |
| (6) Parsons,          | (f) Coke for smelting,                        |
| (7) Perkins,          | (g) Spinning jenny,                           |
| (8) Siemens,          | (h) Steam locomotive,                         |
| (9) Brindleys and     | (i) Pudding iron and                          |
| (10) Darby.           | (j) Turbine.                                  |

1. What does a continental shelf contain?
  - (a) Deep water,
  - (b) Shallow water,
  - (c) Only sand,
  - (d) Only gold or
  - (e) Only ice?
2. The locus of a point on a circle the centre of which describes another circle is known as:
  - (a) Spiral,
  - (b) Circle,
  - (c) Ellipse,
  - (d) Epicycloid or
  - (e) Sphere?
3. Which of the following are chemists:
  - (a) Pierre Eugene Marcellin Berthelot,
  - (b) Baron Jons J Berzelius,
  - (c) Friedrich W Bessel,
  - (d) John Shaw Billings and
  - (e) Archimedes?
4. The most famous of all the comets was observed by:
  - (a) Edmund Hillary,
  - (b) Edmund Highsmith,
  - (c) Edmund Halley,
  - (d) Edmund Hudson or
  - (e) Edmund Robinson?
5.
  - (a) What is a ruminant?
  - (b) What is a herbivorous?
  - (c) Are cows both?

- (d) How many stomachs does the cow have?  
 (e) What is the dual purpose breed of cows?
6. The practice of cultivating the soil in order to produce crops is called:  
 (a) Sericulture,  
 (b) Genoculture,  
 (c) Agriculture,  
 (d) Horticulture or  
 (e) Pisciculture?
7. Charles R. Darwin: Naturalist as (?): Thomas Edison  
 (a) Physicist,  
 (b) Chemist,  
 (c) Inventor,  
 (d) Naturalist or  
 (e) Geologist?
8. Petrology studies:  
 (a) Petals of flowers,  
 (b) Water,  
 (c) Rocks,  
 (d) Forests or  
 (e) Rivers?
9. Match the lists:  
 "A" "B"  
 (a) Skin (1) Pediatrician  
 (b) Nerves (2) Ocultist  
 (c) Infants (3) Cardiologist  
 (d) Eyes (4) Neurologist  
 (e) Heart (5) Dermatologist
10. Which of the following are communicable diseases?  
 (a) Cancer,  
 (b) Consumption,  
 (c) Rheumatism,

- (d) Diphtheria,
- (e) Neuralgia,
- (f) Gout,
- (g) Syphilis,
- (h) Bronchitis,
- (i) Lumbago or
- (j) Scarlet fever?

## 45

1. Which of the following branches of science study bones?
  - (a) Cytology,
  - (b) Bonology,
  - (c) Osteology,
  - (d) Escatology or
  - (e) Graphology?
2. What is the greatest height to which the flames of the sun can rise:
  - (a) 200,000 miles,
  - (b) 286,000 miles,
  - (c) 300,000 miles,
  - (d) 386,000 miles or
  - (e) 486,000 miles?
3. What is blood-rain?
  - (a) Red-tinted rain which leaves a reddish stain on the ground?
  - (b) Rain which comes down after a human sacrifice is made?
  - (c) A dye for synthetic fabrics?

- (d) The blood on a murderer's hand?
- (e) None of these?
- 4. What is the specific gravity of:
  - (a) Glass,
  - (b) Brass,
  - (c) Iron,
  - (d) Copper and
  - (e) Silver?
- 5. What is an armature:
  - (a) A chair specially used by paralytics,
  - (b) The arm of a chair,
  - (c) A sling worn after a fracture,
  - (d) The coil of an electric motor or
  - (e) The sharpest point of rock in a lagoon?
- 6. What is the colour of the following:
  - (a) Carnelian,
  - (b) Garnet,
  - (c) Sapphire,
  - (d) Amethyst and
  - (e) Chrysoberry?
- 7. What do the following have in common:
  - (a) Caucasians,
  - (b) Mongolians,
  - (c) Negroes and
  - (d) Australoids.
- 8. What is the distance a light year represents:
  - (a) 9,000,000 kms,
  - (b) 94,000,000 kms,
  - (c) 9,450,000,000,000 kms,
  - (d) 9,500,000,000,000 kms or
  - (e) 9,600,000,000,000 kms?
- 9. Which of the following is not a physicist:

- (a) Ludwig Boltzmann,
- (b) Sir Jadish Chandra Bose,
- (c) Davidson Black,
- (d) Johann Friedrick Bottgev, and
- (e) Daniel Bovet.

10. Which of the following are insects?

- (a) Spider,
- (b) Ant,
- (c) Woodlouse,
- (d) Dung beetle,
- (e) Lizard,
- (f) Wasp,
- (g) Ladybird,
- (h) Flea,
- (i) Shrimp and
- (j) Centipede.

46

1. With what is Perkins credited:

- (a) Inventing aniline dyes,
- (b) Inventing turbines,
- (c) Propounding Perkins' Law,
- (d) Inventing puddling iron or
- (e) Inventing the gramophone?

2. What is our galaxy known as?

- (a) The Great way,
- (b) The Milky Way,
- (c) Ursa Minor,
- (d) The Great Bear or

- (e) The Earth?
3. Which of the following is Ulna:
- (a) The bone from shoulder to elbow?
  - (b) The bones of the lower arm?
  - (c) The bones of the lower foot?
  - (d) A part of the stomach?
  - (e) Severe ulcerations of the intestines?
4. Which of the following are chemists as well as physicists:
- (a) Robert Boyle,
  - (b) Sir William H Bragg,
  - (c) Jacques E Brandeberger,
  - (d) Percy Williams Bridgman and
  - (e) Luis V Broglie.
5. Can glass be used in the making of:
- (a) Houses,
  - (b) Clothes,
  - (c) Mirrors,
  - (p) Automobiles and
  - (e) Crockery?
6. Ophiuchus is:
- (a) The Greek god of fertility,
  - (b) A constellation,
  - (c) A star,
  - (d) A planet or
  - (e) A satellite?
7. Which of the following did K Macmillan invent:
- (a) Barometer,
  - (b) Arc Lamp,
  - (c) Bicycle,
  - (d) Battery or
  - (e) Balloon?

8. What does the chemical formula  $H_2S$  stand for?
- (a) Sulphuric acid,
  - (b) Nitric acid,
  - (c) Hydrogen sulphide,
  - (d) Phosphoric acid or
  - (e) Ammonia?
9. Who was the first man to leave a spaceship and float around freely in outer space (in March 1965):
- (a) Gagarin,
  - (b) Leonuv,
  - (c) Connors,
  - (d) Tereshkova or
  - (e) Hudson?
10. Where do the following people live?
- (a) Ainus,
  - (b) Dyaks,
  - (c) Tamils,
  - (d) Bantu,
  - (e) Apidis,
  - (f) Masai,
  - (g) Maoris,
  - (h) Berbers,
  - (i) Bhils and
  - (j) Swahilis?

1. Spot the chemist:
- (a) Robert Brown,
  - (b) Sir David Bruce,

- (c) Luther Burbank,
- (d) Augustine Candolle and
- (e) Henry Cavendish.

2. What are:

- (a) A poundal,
- (b) A dyne,
- (c) A foot poundal,
- (d) An erg and
- (e) A joule?

3. What do the following have in common:

- (a) Short horn,
- (b) Aberdeen-Angus,
- (c) Red Poll,
- (d) Devon and
- (e) Hereford.

4. What is a steep slope of cliff caused either by soil erosion or by geologic faulting called?

- (a) Mountain,
- (b) Plateau,
- (c) Escarpment,
- (d) Xanadu or
- (e) Precipice?

5. What is the substance inside the egg, which supplies food for the embryo, known as?

- (a) Cytoplasm,
- (b) Deutoplasm,
- (c) Germplasm,
- (d) Ectoplasm or
- (e) Protoplasm?

6. Clay, chalk and limestone are used to make which of the following:

- (a) Glass,

- (b) Cement,
  - (c) Asbestos,
  - (d) Kiln and
  - (e) Paper?
7. Who from the following invented printing:
- (a) E Cartwright,
  - (b) J Gutenberg,
  - (c) H Davy,
  - (d) A G Bell and
  - (e) G Marconi?
8. An Artesian Well is a type of well:
- (a) Which normally gives a continuous flow of water,
  - (b) Which gives water for one month in the year,
  - (c) Which is found only in India,
  - (d) Which derives its water from the arteries of a river or
  - (e) First dug in Armenia?
9. How many pounds does a gallon of water weigh?
- (a) 8,
  - (b) 9,
  - (c) 10,
  - (d) 11 or
  - (e) 14?
10. Which of the following have backbones:
- (a) Cuttlefish,
  - (b) Crickets,
  - (c) Crabs,
  - (d) Craneflies,
  - (e) Crayfishes,
  - (f) Tapeworm,

- (g) Spiders,
- (h) Brachiopods,
- (i) Dobson flies and
- (j) Earthworms.

48

1. Among the following physicists, one was a chemist as well. Spot him:
  - (a) Arthur J Dempster,
  - (b) Paul A M Derac,
  - (c) John R Dunning,
  - (d) Sir Humphry Davy and
  - (e) Peter J W Debye.
2. The sum total of all chemical processes which take place in an organism are known as:
  - (a) Catabolism,
  - (b) Anabolism,
  - (c) Metabolism,
  - (d) Tetabolism or
  - (e) Alcoholism?
3. Bats find their way in total darkness with the help of:
  - (a) Sound waves,
  - (b) Light waves,
  - (c) Radio waves,
  - (d) Laser beams or
  - (e) Radioactive rays?
4. The high tidal wall-like wave experienced in a narrow river estuary is called:

- (a) A bore,
  - (b) A steep,
  - (c) A drift,
  - (d) A cliff or
  - (e) A bottom?
5. Who first flew a plane across the Atlantic?
- (a) Charles Lindberg,
  - (b) The Wright Brothers,
  - (c) Edward Lear,
  - (d) P C Sorcar or
  - (e) The Brothers Grimm?
6. Taking the conductivity of heat of silver to be 100, what is the conductivity of:
- (a) Copper,
  - (b) Gold,
  - (c) Aluminium,
  - (d) Magnesium and
  - (e) Zinc?
7. What are the offspring of the following called:
- (a) Hare,
  - (b) Hawk,
  - (c) Horse,
  - (d) Kangaroo or
  - (e) Musk rat?
8. Should :
- (a) Strong tea be given to patients suffering from shock?
  - (b) An emetic be given to patients suffering from strychnine poisoning?
  - (c) Air be excluded from scalds?
  - (d) A hot compress be applied to a dislocation?
  - (e) A finger suffering from frost bite be plunged

into warm water?

9. The line of constant compass direction is known as:
- (a) Meridian,
  - (b) Loxodrome,
  - (c) Longitude,
  - (d) Latitude or
  - (e) Graph?
10. Which of the following are the uses of alum:
- (a) Purification of water,
  - (b) Dye making,
  - (c) As an astringent,
  - (d) In the manufacture of cycle tyres,
  - (e) Road making,
  - (f) Manufacture of baking power,
  - (g) Feeding rats,
  - (h) Frying chickens,
  - (i) Manufacture of paper and
  - (j) Hardening of any surface.

49

1. Which of the following are iodine, fluorine and iridium?
- (a) Compounds,
  - (b) Elements,
  - (c) Salts,
  - (d) Acids or
  - (e) Alkalis?
2. Printing began first in:
- (a) Germany,
  - (b) England,

- (c) France,
  - (d) Japan or
  - (e) China?
3. What is the difference between the following fractures?
- (a) Simple,
  - (b) Compound,
  - (c) Complicated,
  - (d) Comminuted and
  - (e) Impacted.
4. A parsec is an unit of measurement of interstellar space. How many miles does it amount to?
- (a) 19876543901692,
  - (b) 19876543000092,
  - (c) 19876543009200,
  - (d) 29300000000000 or
  - (e) 19200000000000?
5. Any earthy material deposited by running water is termed as:
- (a) Erosion,
  - (b) Alluvium,
  - (c) Silt,
  - (d) Pebbles or
  - (e) Slag?
6. Spot the bacteriologist:
- (a) Alexis Carrel,
  - (b) George W Carver,
  - (c) Ernest B Chain,
  - (d) Rudolf J E Clausius and
  - (e) Ferdinand J Cohn.
7. On which of the following dates is the sun lowest on the horizon every year:
- (a) 21 December,

- (b) 21 November,
  - (c) 21 October,
  - (d) 21 June or
  - (e) 21 August?
8. One of the following chemists was a famous inventor as well. Spot him:
- (a) Fredrick G Cottrel,
  - (b) Hilaire Chardonnet,
  - (c) Wallace H Carother,
  - (d) Robert W Bunsen and
  - (e) Stanislav Connizzaro.
9. What are the offspring of the following called:
- (a) Badger,
  - (b) Bear,
  - (c) Wolf,
  - (d) Fox and
  - (e) Otter?
10. What subjects are covered by the following:
- (a) Spelaeology,
  - (b) Phrenology,
  - (c) Ecology,
  - (d) Companology,
  - (e) Seismology,
  - (f) Eschatology,
  - (g) Nosology,
  - (h) Osteology,
  - (i) Cytology and
  - (j) Spistemology?

1. Which of the following is halitosis:
  - (a) Bad breath,
  - (b) Dull liver condition,
  - (c) Osmosis in hybrid varieties,
  - (d) Liver transplant or
  - (e) The Greek who first performed a transplant on a human being?
2. A blizzard is:
  - (a) A large South American bird,
  - (b) A storm of powdery snow, driven by an abnormally high wind,
  - (c) A Hawaiian hut-type dwelling,
  - (d) An inflated tent put up in the event of sudden storms or
  - (e) An underground shelter created in World War II?
3. Which of the following did C A Parson invent:
  - (a) The steam engine,
  - (b) Steam turbine,
  - (c) Steam locomotive,
  - (d) Steam aircraft or
  - (e) Sextant?
4. In electricity how many watts is two horsepower equal to:
  - (a) 700,
  - (b) 746,
  - (c) 750,
  - (d) 756 or

- (e) 760?
5. A coral island (in the shape of a ring) enclosing a lagoon is called:
- (a) Butte,
  - (b) Mesa,
  - (c) Coring,
  - (d) Atoll or
  - (e) Concentric?
6. Which of the following are now extinct?
- (a) Kiwi,
  - (b) Ibis,
  - (c) Moa,
  - (d) Cassowary and
  - (e) Dodo.
7. Spot the geologist:
- (a) George W Crile,
  - (b) Sir William Crookes,
  - (c) Marie Curie,
  - (d) Harvey W Cushing and
  - (e) Baron Georges L C F D Cuvier.
8. One of the following physicists is a *nuclear* physicist. Spot him:
- (a) Nicolas Leonard Sadi Carnot,
  - (b) Sir James Chadwick,
  - (c) Sir John Douglas Cockroft,
  - (d) Edward Uhler Condon and
  - (e) Charles A de Coulomb.
9. Gabriel D. Fahrenheit: Physicist as (?): Euclid
- (a) Physicist,
  - (b) Doctor,
  - (c) Chemist,
  - (d) Astronomer or

(e) Mathematician?

10. According to their intensity, arrange the temperatures of the following:

- (a) The North pole,
- (b) The flame of a bunsen burner,
- (c) Absolute zero,
- (d) The human body,
- (e) The flame of an oxyacetylene burner,
- (f) A red-hot body,
- (g) White heat,
- (h) The melting point of ice,
- (i) Boiling water and
- (j) The freezing point of alcohol.

**PART II**

**ANSWERS**

# 1

1. (c).
2. (b).
3. (a). Wood which has not yet become coal. It is also known as brown coal. (b) Coal which burns with little flame, no smoke and intense heat. (c) Coal which gives out a bright light while burning. (d) Like steam coal, this burns without smoke. It is used mainly in blast furnaces and ship boilers since it burns more readily than the other. (e) Peat is obtained from mosses which have become partially carbonized.
4. (c).
5. (b).
6. (c).
7. (c).
8. (a).
9. (c). It flowers earlier than the rest.
10. (a), (b), (c), (d), (i), and (j).

# 2

1. (e).
2. (a).
3. (c).
4. (b).
5. (a) 20 (milk) teeth. (b) 32 teeth. (c) 40 teeth. (d) 42 teeth. (e) 30 teeth.

6. (a) The race of people who speak the languages from which Persian and many Indian dialects are derived. Sanskrit is one such language. (b) The race of people speaking one or more of the languages derived from the one spoken in pre-history on the great plains of the North Black Sea. (c) The race of people speaking the languages of the tribes who, at various times, came out of Arabia to conquer the surrounding countries. The most famous of these people are Jews and Assyrians. (d) The race of people living in North Africa. They include the Egyptians and Somalis. (e) The race of people belonging to a branch of the Caucasians, or white family. No pure breed of Nordics, however, exists now.
7. (a) Yes. (b) No. (c) Yes. (d) No. (e) No.
8. (a).
9. (a) Italy and Spain, (b) Canada (Sadbury and Ontario), (c) Quebec and Central Urals, (d) China and Burma and (e) Rhodesia and the Congo.
10. (a), (d), (e), (f) and (g).

### 3

1. (b).
2. (a). When the oceans, lakes and rivers accumulate layers of sediment, resulting in layer upon layer of mineral or organic matter, it is known as sedimentation. (b) The Grand Canyon and the Utah National Park (both in the USA). (c) When any part of the earth is consistently worn away by the force of water, ice,

weather and wind, it is known as erosion. (d) Grand Canyon, Utah National Park and Rainbow Bridge (all in the USA).

3. (b).
4. (a) No. (b) No. (c) Yes. (d) No. (e) Yes.
5. (c).
6. (c).
7. (b).
8. (c).
9. (a).
10. (a), (b), (c), (g), (h), (i) and (j).

## 4

1. (d).
2. (a) Jellyfish, crabs and lobsters. (b) Mussels, scallops and cockles. (c) Hulls, terns and cormorants. (d) Five. (e) Two.
3. (a).
4. (a).
5. (c).
6. (d).
7. (a).
8. (b).
9. (b).
10. (c), (e), (g), (h), (i) and (j).

## 5

1. (a).
2. (b).
3. (c).
4. (c).
5. (b).
6. (c).
7. (a) and (b).
8. (a) Polaris (Pole Star), (b) Deneb, (c) Aldebaran, (d) Betelgeuse and (e) Sirius.
9. (a) Plant that lives on decaying vegetation. (b) The birds' nest, Orchis. (c) The logarithm of a number, to any base, is the power to which that base must be raised to equal the number in question. Thus, the base of a "common" logarithm is 10.  $10^{10} = 100$ . Hence, the logarithm of 100 is 2. (d) The common slide rule puts a logarithm to practical use. (e) John Napier, in 1614.
10. (a), (c), (e), (g) and (i).

## 6

1. (c). 1800° Centigrade.
2. Sirius is the brightest of all (known) fixed stars. It belongs to (e).
3. (c).
4. (a).

5. (c).
6. (d).
7. (c).
8. All are elements.
9. (a).
10. (c), (e), (f), (g), and (h).

## 7

1. (c).
2. (a).
3. It stands for Greenwich Mean Time.
4. (a) and (b). It is used for detecting radiation, usually by alpha, beta or gamma rays. It consists of a fine wire anode, surrounded by a metal cathode in a tube which contains gas at low pressure. (c) Substances that cannot be broken down into other substances by chemical action. (d) Elements are classified by and whether they are metals or non-metals, whether they are liquid, solid or gaseous at normal temperature. (e) The largest instrument in the woodwind section of an orchestra. The tubes, about nine feet long, double back on themselves. It has a deeper tone than the oboe.
5. (a) 10 to 12 ounces, (b) Right—23 ounces; Left—19 ounces, (c) 4 ounces, (d) 45 to 60 ounces and (e) 44 ounces.

Yes. The weight of certain female organs differs from that of men. A man's heart weighs 10 to 12 ounces and a woman's weighs 8 to 10 ounces.

A man's brain weighs 50 ounces and a woman's 44 ounces.

6. (d).
7. (b).
8. (b).
9. (b).
10. (a). It was a tribe with whom the Hebrews fought, (g) refers to one who goes to the chapel, (h) It is a poison and (j) refers to a recluse.

## 8

1. (c).
2. (c).
3. (a).
4. (b).
5. (b).
6. (b).
7. (d).
8. (d).
9. (a) : It consists of three hollow tubes. The first tube transforms light from any source into parallel rays; the other one is a telescope which gives a clear view of the spectrum formed; and the third one contains a scale which makes direct measurement of the spectrum possible. (b). It is used in the analysis of the spectrum.
10. All except (c), which contains formaldehyde as well as carbolic acid.

1. (a).
2. (b).
3. (c).
4. (a).
5. (b).
6. (a). The covering of an area, or the action on that area, by an ice sheet or by glaciers. (b) Alaska, Norway, Switzerland. (c) The remains of pre-historic plants and animals that lived 500 million years ago. (d) Some of the best deposits of fossils are found in Utah and Arizona (in the USA), and Holzmaden (in Germany).
7. (b).
8. (a).
9. (a). An optical device which gives an enlarged image of a distant object for visual examination. (b) In (3).
10. (a) 100°F, (b) 109°F, (c) 102°F, (d) 100°F, (e) 88°F, (f) 105°F, (g) 76°F, (h) 106°F, (i) 104°F and (j) 102°F.

1. (e).
2. (b).
3. (a). An important device for weather forecasting and altitude measurement (in which case it is called the

altimeter), it consists of a 34-inch high glass tube, open at one end, which is rested in a cup of mercury, which keeps a level of about 30 inches in the tube, leaving an air vacuum at the top of the tube. Different levels of atmospheric pressure will cause the mercury to rise or fall between 29 and 30.5 inches at sea level, from which atmosphere will be judged.  
(b) The inventor was 2.

4. (a) No. (b) No. (c) No. (d) Yes. (e) Yes.
5. (b).
6. (d).
7. (b).
8. (c).
9. (a).
10. (a) 90 minutes, (b) 150 minutes, (c) 180 minutes, (d) 210 minutes, (e) 210 minutes, (f) 270 minutes, (g) 90 minutes, (h) 120 minutes, (i) 150 minutes and (j) 180 minutes.

## 11

1. (b).
2. (a) In a radar, a directional antenna transmits a series of accurately timed pulses of ultra high frequency radio waves towards a direction, and at the same time, a reference pulse is sent to the receiving equipment. If the pulses from the antenna strike an object they are reflected back to the antenna, where they are picked up by the equipment. The difference in time when the pulse was sent and the time when it

returned, is compared in the radar set, and since radio waves travel at the speed of 186000 miles per second, this time difference is calculated and the distance where the object is lying is known. (b) Yes, it is all three.

3. (d).
4. (a).
5. (c).
6. (e).
7. (a).
8. (a).
9. (b).
10. (a)  $-33.60^{\circ}\text{C}$ , (b)  $-87.90^{\circ}\text{C}$ , (c)  $-33.50^{\circ}\text{C}$ ,  
(d)  $35^{\circ}\text{C}$ , (e)  $60.20^{\circ}\text{C}$ , (f)  $78.30^{\circ}\text{C}$ , (g)  $80.40^{\circ}\text{C}$ ,  
(h)  $100^{\circ}\text{C}$ , (i)  $325^{\circ}\text{C}$  and (j)  $357.25^{\circ}\text{C}$ .

## 12

1. (a).
2. It is a round vehicle, with its engine at the centre, which drives the air down through the bottom of the vehicle, thus creating a high-pressure air cushion on which the vehicle hovers (from which it has got its name). To travel forward or backward, another engine, which works on the principle of the jet engine, is used. The principle behind the working of a hovercraft is basically the same as that of a jet engine.
3. (b).
4. (c).
5. (a).

6. (b).
7. (b).
8. (a).
9. (c).
10. (a) Birds, (b) Bell-ringing, (c) Animals, (d) Pot-holing, (e) Insects, (f) The stars and the Zodiac, (g) Mankind, (h) Human antiquities, (i) Minerals and (j) Jewels.

## 13

1. (b).
2. (a).
3. (c).
4. (d).
5. (d).
6. (d). KKK stands for Ku Klux Klan—an American extremist organization.
7. (a).
8. (c).
9. (b).
10. All are parts of our body. (a) The thigh bone. (b) The larger bone between the knee and the foot. (c) The collar bone. (d) The bone from shoulder to elbow. (e) One of the bones of the lower arm. (f) The windpipe from the mouth to the lung. (g) A part of the heart. (h) The back portion of the brain. (i) Teeth. (j) The back of the head.

## 14

1. (b).
2. (b).
3. (c).
4. (a).
5. (a).
6. (b).
7. (a).
8. (c). A man, on an average, certainly does not live longer than a woman.
9. (d).
10. (f), (g), (c), (h), (b), (i), (a), (j), (e) and (d).

## 15

1. (b).
2. (d).
3. (b) and (c).
4. (a).
5. (d).
6. (a).
7. (c).
8. (a).
9. (d).
10. (b), (c), (j), (h), (a), (f), (i), (d), (e) and (g).

## 16

1. (b).
2. (b).
3. (b).
4. (d).
5. (b).
6. (b).
7. (b).
8. (b).
9. (b).
10. (c), (e), (a), (f), (i), (d), (b), (g), (j) and (h).

## 17

1. (b).
2. (b).
3. (c).
4. (b).
5. (c).
6. (a).
7. (a).

8. (a). A natural mineral, Calcium Carbonate ( $\text{CaCO}_3$ ).  
 (b) A manufactured article, Calcium Sulphate ( $\text{CaSO}_4$ ). (c) The chalk burnt in kiln, Calcium Oxide ( $\text{CaO}$ .) (d) Quick lime treated with water, Calcium Hydroxide,  $\text{Ca}(\text{OH})_2$ . (e) The other name for slaked lime.
9. (b).
10. *Reflex actions:* (a), (e), (f), (h); *Instinctive:* (d), (g), (j);  
*Rational:* (b), (c), (i).

## 18

1. (b).
2. (a).
3. (b).
4. (a). This engine runs by the energy produced by internal combustion. In this, the carburetter converts petrol into a fine vapour, which mixes with air drawn in by it. This mixture travels through a valve system to the top of the cylinder (piston), where it is exploded by the electric spark plug. The explosion expands the mixture, which in turn forces down the piston, which in turn, with the help of a connecting rod, moves the crankshaft. And by the use of the chain of another shaft the wheels are moved, moving the vehicle along with them.

- (b) The motorcycle. It is run by an internal combustion engine.
5. (a) Chow Chow. (b) The Pekinese. (c) Half a mile. (d) Dalmation.
  7. (c).
  6. (e) and (b).
  8. (b).
  9. This law of electricity states that the current "I" that flows through a resistance "R" is directly proportional to electromotive force or voltage "E" across the resistance, and inversely proportional to the resistance,  $E/R$ . It was formulated by (b).
  10. (c), (f), (g) and (j).

## 19

1. (a).
2. (c).
3. (b).
4. (b), (c) and (d).
5. (c).
6. (a). It is a device for automatic control of temperature in furnaces. (b) The name of the month between 19 July to 17 August in the French Revolution. (c) An unit of heat. (d) A mixture of iron oxide and aluminium. (e) An article consisting of medicated cotton-wool.
7. (a).
8. (b).
9. (a).
10. All of them.

1. (e).
2. All.
3. (b).
4. (b).
5. (a) 4 to 5, (h) 6 to 10, (c) 10 to 15, (d) 12 to 20 and (e) 50 to 60.
6. (a) No. (b) Yes. (c) Yes. (d) Yes. (e) Yes.
7. (a) An anaesthetic, (b) The green coloring matter in leaves, (c) A cough medicine, (d) A photographic process and (e) A kind of anaemia in women.
8. (b).
9. (b).
10. (a) A five-pointed star often used in magic, (b) The other name for pentacle, (c) A group of five years, (d) A line of five feet, (e) A shelter formed by a roof sloping against another building, (f) A five sided figure, (g) A very inflammable liquid, (h) The first five books of the Old Testament, (i) A Jewish festival and (j) A combined athletic event comprising of leaping, running, wrestling, discuss throw and javelin throw.

1. (c).
2. (a).
3. (c).

4. (c).
5. (a).
6. (c).
7. (d).
8. (d).
9. (b).
10. (a) Blue whale, (b) Ostrich, (c) Pacific, (d) Elephant, (e) Tokyo, (f) China, (g) Jupiter, (h) Asia and (i) Sahara.

## 22

1. (a).
2. (a) *Fantasy*: Gratifying frustrated desires by imaginary achievements. (b) *Repression*: Preventing painful or dangerous thoughts from entering consciousness. (c) *Rationalization*: Attempting to prove that one's behaviour is "rational" and justifiable and thus worthy of self and social approval. (d) *Projection*: Placing blame for difficulties upon others or attributing one's own unethical desires to others. (e) *Displacement*: Discharging pent-up feelings, usually of hostility, on objects less dangerous than those which initially aroused the emotions.
3. (c).
4. (a).
5. (d).
6. It contains two shells. The inner shell is airtight and houses crew quarters. Between this and the outer shell are diving tanks. When it has to sink, water is

brought in through various valves. When it has to surface, the stored water is pumped out through powerful pumps. The power to run, surface and submerge the submarine comes from the engine which is also housed in the inner tank, along with the crew quarters, and which is airtight. The principle behind the running of the submarine is basically the same as that of (a).

7. (a) 15 to 17, (b)  $4\frac{1}{2}$ , (c) 14, (d) 8 and (e) 23.
8. (a).
9. (c).
10. (b), (c), (i) and (j).

## 23

1. (a) A form of reaction in which the first molecule to react produces a condition that causes the reaction of further molecules, making a series of reactions, till all the available substance is used up. (b) The splitting of the nucleus of an atom into about two equal parts, resulting in the change of the original element into two lighter ones, with a release of energy and particles. (c) A process when matter is transformed from solid to liquid state. In atomic science, fusion means joining two or more light atomic nuclei so that a nucleus of a heavy element is formed. (d) The first name given to nuclear reactors used to produce controlled atomic energy. (e) Usually energy released when some of its mass is converted into energy, or when negatively charged electrons and

positively charged neutrons react with each other. It can be released either through fusion or fission.

2. (b).
3. (b).
4. (b).
5. (a) *Emotional Insulation*: Reducing ego involvement by withdrawing into passivity so that the self is not hurt. (b) *Intellectualization*: Distinguishing incompatible attitudes by cut and dry logical thinking. (c) *Undoing*: Compensating for immoral acts and/or desires. (d) *Regressing*: Going back to less mature responses. (e) *Identification*: Identifying oneself with some illustrious person or institution.
6. (a).
7. (b).
8. (c).
9. (b).
10. (a) and (e).

## 24

1. (a).
2. (a). The current of electricity that will deposit 0.0011180 grams of silver per second, when flowing through a silver nitrate solution, (b) The resistance of a column of mercury at  $0^{\circ}\text{C}$ , (c) The electrical pressure which, when applied across a conductor of resistance 1 Ohm, will maintain a current of one amp, (d) The quantity of electricity which passes a given point in a conductor when 1 ampere flows for one

second and (e) The capacity of a conductor in which a charge of 1 coulomb produces a potential difference of 1 volt.

3. (c).
4. (b).
5. (b).
6. (b).
7. (c).
8. (a) *Anxiety*: Anxiety without reference to anything  
(b) *Phobic*: Irrational fears from which the person cannot free himself. (c) *Obsessive-compulsive*: Irrational thoughts and actions which keep persisting.  
(d) *Hysterical*: Illnesses without any corresponding bodily reaction. (e) *Hypochondriac*: Oversensitive to one's physical well-being.
9. (c).
10. (a) White (b) Songthrush (c) Australia (d) Red-backed strike.

## 25

1. (a) Bullet. (b) They have the same speed. (c) Wireless message. (d) The earth.
2. All belong to the nightshade family.
3. (a) Periodic winds that blow from the Indian Ocean over India. (b) The winds which blow from either side of the equator towards it. (c) Hot winds blowing over Arabia and bringing with them suffocating clouds and sand. (d) Winds blowing down the valley of the Alps. (e) Winds blowing across the

Mediterranean to its northern shores.

4. (b).
5. (b).
6. (c). It is an annual.
7. (a) *Auditory Aphasia*: Inability to understand spoken words. (b) *Expressive Aphasia*: Inability to speak words. (c) *Nominal Aphasia*: Inability to remember names. (d) *Formulation Aphasia*: Inability to form sentences.
8. (b).
9. (b).
10. (d) and (e).

26

1. (c).
2. (b).
3. (a).
4. (b).
5. They are the main races living in India.
6. (b).
7. (b).
8. (a) 52-68; (b) 36-51; (c) 20-35; (d) under 20.
9. (a). It flowers later than the rest.
10. (a) Beetles. (b) From two Greek words: *Koleos*, meaning a sheath, and *Petron*, meaning wing. (c) About a quarter of a million. (d) (1) True flies (housefly, bluebottle and so on), including midges and mosquitoes. (2) Butterflies and moths. (3) Soft-bodied insects with gauze-like wings, like alder flies

and lace-wings. (4) Grasshoppers, crickets and cockroaches. (5) Some hymenoptera are among the most highly developed insects—like bees, wasps, ants and saw flies.

## 27

1. (a) and (d).
2. (a).
3. (a).
4. (b).
5. (b).
6. (a) Instead of petrol, diesel is used to run this engine; air is drawn into a cylinder where it is compressed to about 500 pounds per square inch. This makes the temperature so high that when fuel is pumped into it, it is immediately ignited, and the resulting explosion presses down the piston, moving the vehicle. (b) It works on the same lines as (1).
7. (a) A collection of particles and gases moving in the solar system which, when passing close to the sun, gets brights and appears as a round head with bright nebulous streamers. Most comets orbit in very long ellipses, but some are destroyed on the way. The constituents of comets are very complex. And it is not always possible to determine them. (b) Halley's comet. (c) It was observed by Edmund Halley in 1682. (d) Halley said that it also appeared in 1531 and 1607. He predicted that it would come again in 1759, which it did. (e) Zenith is that point of heaven which

lies vertically above the observation station on earth. Nadir is the point of heaven which lies vertically below the observation station on earth.

8. (a).
9. (a) Killens, (b) Squeakers, (c) Calves or colts. (d) Pups or puppies and (e) Eaglets.
10. (d), (g) and (i).

## 28

1. (b).
2. (d).
3. (d). It has a root.
4. (c).
5. (d).
6. (a).
7. (b).
8. (a), (b) and (c).
9. (e).
10. (a), (b), (g) and (h) are associated with the automobile; (c), (e), (f) and (i) are associated with flying; (d) and (j) are associated with the wireless.

## 29

1. (b).
2. (a) 20.8, (b) 16.9, (c) 14.8, (d) 8.1 and (e) 2.3.
3. Satellite Instructional Television Experiment, (b)

Satellite Telecommunication Experiments Project.  
(c) Agricultural Resources Inventory and Survey  
Experiment, (d) Bhabha Atomic Research Centre  
and (e) Space Application Centre.

4. (a).
5. (c).
6. (a).
7. (b).
8. (b).
9. It is a piston-less engine. It is more efficient than the common engine because it saves the unnecessary energy which is required to move the pistons. In this, paraffin is burned with highly compressed air, which moves the blades of the turbine. Another turbine on the same axle brings in fresh air into the firing chambers. When the hot air is forced out from the rear, the plane is propelled on. The turboprop uses its turbine to turn an airscrew. When the plane has achieved a speed of 200 m.p.h., sometimes Ramjets are used, which work by intaking air by the nose of the aircraft, burning fuel in it and releasing the high-pressure air which propels the craft on. As the speed increases, so does the efficiency of the Ramjet: because the intake of the air gets considerably high as the speed increases. (b) I was invented by (2).
10. (a), (b), (c), (d), (e), (g), (h) and (i).

1. (b).
2. (a) The total of all chemical processes which take place in an organism, (b) A process by which complex organic substances are broken down into simple ones to release energy. (c) The building of complex substances from simple ones, the energy for which is obtained from catabolism.
3. (d).
4. (a) One of the important colourless, odourless gases found in the atmosphere. It forms one of the basics of life by combining carbon to produce oxidation. Its chemical symbol is O, its atomic number 8, atomic weight 16, it liquifies at  $-183^{\circ}\text{C}$  and solidifies at  $-218.8^{\circ}\text{C}$ . (b) Oxygen is produced in laboratories by heating oxygen-bearing compounds, or by electrolysis. (c) This colourless gas is 1.53 times heavier than air, and is produced by the combustion of carbon compounds or by the respiration process of living things. (d) Through photosynthesis, the balance of life is maintained, because plants take in carbon dioxide and give out oxygen. (e) This gas is used in the making of soda, carbonated beverages, and as a fire extinguisher.
5. (c).
6. (a).
7. (b).
8. (c).
9. (a).

10. (a), (i), (b), (e), (j), (h), (d), (g), (f) and (c).

**31**

1. (d).
2. (a).
3. (c).
4. (a).
5. (a).
6. (b).
7. (e), (b), (d), (c) and (a).
8. (a). The cellulose of wood pulp, (b) The wool of the Alpaca goat, (c) Cotton, (d) Lax and (e) Wool.
9. (a).
10. (a) Kidneys, (b) Ears, (c) Any part of the body, (d) Eyes, (e) The cavities behind the nose, (f) The pericardium round the heart, (g) The veins, (h) The sciatic nerves, (i) The legs and (j) The mouth and the throat.

**32**

1. (b).
2. (e).
3. (b).
4. (a). This is the Tarapur Atomic Power Station, which is working full-fledgedly.
5. (d).

6. (d).
7. (a) The USA. (b) Ham. (c) The USSR. (d) Yuri Gagarin. (e) Alexei Leonov.
8. (d).
9. (b).
10. (a), (b), (e), (g), (h) and (i).

33

1. (c).
2. (a).
3. (a).
4. (b).
5. (b). (The others never existed.)
6. (b).
7. (a). Fawns, (b) Cheepers, (c) Gooslings, (d) Kids, and (e) Kids.
8. (b).
9. (a) That body which absorbs radiation completely, without reflection, therefore appearing completely black. (b) Though it remains a hypothetical concept, it does provide an ideal condition for the study of the law of radiation. (c) At this temperature all motion of molecules and atoms ceases. Its value is  $273^{\circ}$  below  $0^{\circ}\text{C}$ . (d) It is usually measured through the Kelvin scale, which (e) can be converted into centigrade by the formula:  $C = 273^{\circ} - K$ .
10. (a), (b), (c) and (h).

1. (c).
2. (d).
3. (b).
4. (a).
5. (a).
6. (b).
7. (c).
8. (c).
9. (c).
10. (a) In psycho-analysis, (b) In hypnotism as a cure for hysteria, (c) In intelligence tests, (d) In the nature of intelligence, (e) In stressing the will to power, (f) In the study of young delinquents, (g) In the study of the mentality of apes, (h) In the history of instincts. (i) In psychical research and (j) In the study of conditioned reflexes.

1. (a).
2. (b).
3. (c).
4. (b).
5. (a).
6. (a).

7. (a) The morbid fear of being in open places, (b) The morbid fear of being in enclosed spaces, (c) The loss of memory, (d) A psycho-pathological state characterised by the belief that one is being persecuted or is somebody of importance and (e) The loss of the power of speech.
8. (a) A Bactrian camel. (b) The Szechwan mountains. (c) A set. (d) A leveret. (e) No.
9. (b).
10. (c), (g), (h) and (j).

## 36

1. (b).
2. (d).
3. (a) and (b).
4. (c).
5. (a).
6. (c).
7. (c).
8. (d).
9. (a).
10. (a) 4 to 6, (b) 3 to 12, (c) 1, (d) 1 to 2, (e) about 6 and more, (f) about 3 to 9, (g) 1, (h) about 5 to 7, (i) Do not produce any offspring and (j) 1.

1. (d).
2. (a).
3. (b).
4. (c).
5. (a) It is made by crushing clay, chalk and limestone, which are then fed into a machine which mixes them with water into a thick cream (known as slurry) and is conveyed to a high temperature kiln which reduces it to a clinker. This clinker passes through a series of rollers which grind it, and the pale grey powder is produced. This is cement. (b) Cement, as explained above, is (1).
6. (d).
7. (c).
8. (c).
9. (a).
10. (a), (b), (d), (f), (g), (h), (i) and (j).

1. (b).
2. (a) 25 to 28, (b) 40 to 50, (c) 70 to 80, (d) 90 to 100 and (e) 120 to 140.
3. (a).
4. (a) No. (b) Yes. (c) Yes. (d) No. (e) Yes.

5. The transit occurs when the planet Venus, revolving round the sun, inside the earth's orbit, passes across the Sun's face and is seen as a small black dot on the Sun's surface. The next transit of Venus will occur on (a).
6. (a) 4; (b) 5; (c) 2; (d) 3; (e) 1.
7. (a).
8. (c).
9. (c).
10. (c).

## 39

1. (a).
2. (b).
3. (a). An odourless, colourless gas, the lightest of all substances. Its symbol is H, its atomic weight 40.080, atomic number 1, it boils at  $252.7^{\circ}\text{C}$  and melts at  $259^{\circ}\text{C}$ . (c) It is used as the basic ingredient for all carbohydrates, oil, proteins, acids bases and so on. By combining with oxygen it makes water, and with nitrogen it produces ammonia. By fusion it makes the hydrogen bomb. (d) An odourless, colourless gas which constitutes about  $\frac{4}{5}$  of the earth's atmosphere. It is used as the basic ingredient in the making of TNT, ammonia and nitric acid. (e) Its symbol is N, its atomic weight 14.008, its atomic number 7, it boils at  $195.81^{\circ}\text{C}$  and melts at  $209^{\circ}\text{C}$ .
4. (c).
5. (b).

6. (a).
7. (c).
8. ( ).
9. (d).
10. (a), (c), (d) and (j).

40

1. (c).
2. (c).
3. (b).
4. (a).
5. (a).
6. (b).
7. (b).
8. (b).
9. (e).
10. It is noon in these countries when it is noon at Greenwich.

41

1. (a).
2. (b).
3. (b).
4. (b).
5. (d) and (e).
6. (c).

7. (a) and (b) A disease caused by sexual intercourse with an infected person, or occasionally from infected clothes. (c) Soreness and yellow discharge from the penis, vagina or other sites of infection. (d) Avoidance of infected person (s), use of condom or sheath or careful washing immediately after sexual intercourse.
8. (c).
9. (a) No. (The bat is a mammal.) (b) Yes. (c) Yes. (d) Yes.
10. (a) Meteorology, (b) Anthropology, (c) Psychopathology, (d) Sociology and (e) Botany.

## 42

1. (d).
2. (c).
3. (c).
4. (a).
5. (a) Invisible rays which constitute a portion of the sun's rays and have many medical values, (b) These have a heating effect and a longer wavelength than visible lights, and are utilized in special photography, in the fields of astronomy, criminology, industry and medicine, (c) Invisible rays which have shorter wavelength than visible lights. They are produced in tubes and bulbs called X-ray tubes and can penetrate various thicknesses (flesh, wood, hard rubber) but are obstructed by materials with great density, like lead, (d) The difference between the apparent and the true

position of a subject due to the movement of the earth during observation. Its discovery led to other discoveries like (1) the earth revolves round the sun, and (2) the speed of light is finite, *i. e.*, it is not transmitted instantaneously, and (e) The emblem of a publisher.

6. (a) Spats, (b) Squats, (c) Polts, (d) Cygnets and (e) Flappers.
7. (e).
8. (b).
9. (a).
10. (a) Logarithm, (b) The circulation of blood, (c) Radium, (d) Some of the laws of heredity, (e) The fact that the sun is the centre of the solar system, (f) The fact that malaria is communicated by mosquitoes, (g) The composition of water, (h) Founded chemistry, (i) The electron and (j) The vaccination for small pox.

## 43

1. (c).
2. (d).
3. (b).
4. (c).
5. (a).
6. (a) The rate of working on one joule per second, (b) The pressure of 76 centimetres of mercury under specific conditions, equal to 14.7 pounds of weight per square inch, (c) The quantity of heat required to raise the temperature of one pound of water at 60.5°C

by one degree, (d) 100,000 thermal units and (e) The quantity of heat required to raise the temperature of one gram of water at 15°C, by one degree.

7. (a) The earth's crust, (b) The higher layer of atmosphere between 7 to 50 miles above the earth, (c) The lower layer of atmosphere upto 7 miles, (d) This lies above the stratosphere and (e) The watery part of the earth's crust.
8. (a).
9. (c).
10. 1g, 2a, 3h, 4b, 5i, 6j, 7c, 8d, 9e, and 10f.

## 44

1. (b).
2. (d).
3. (a) and (b).
4. (c).
5. (a) Animal that chews the cud. (b) Animal that eats grass. (c) Yes. (d) Four. (e) Dual purpose breed is for milk and beef.
6. (c).
7. (c).
8. (c).
9. (a) 5; (b) 4; (c) 1; (d) 2; (e) 3.
10. (b), (d), (f) and (j).

1. (c).
2. (b).
3. (a).
4. (a) 2.4-2.6, (b) 8.1-8.6, (c) 8.95, (d) 8.95 and (e) 10.3-10.5
5. (d).
6. (a) Usually red, (b) Deep red, (c) Blue, (d) Violet or purple and (e) Yellow or green.
7. They are the basic races into which mankind is divided by anthropologists.
8. (d).
9. (c), (d) and (e).
10. (b), (d), (f) and (g).

1. (a).
2. (b).
3. (b).
4. (a) and (b).
5. Yes.
6. (b).
7. (c).
8. (c).
9. (b).

10. (a) North Japan, (b) Borneo, (c) South India and Sri Lanka, (d) South Africa, (e) The Khyber Pass, (f) East Africa, (g) New Zealand, (h) Algeria, (i) India and (j) Zanzibar.

47

1. (e).
2. (a) That force which, when acting on a mass of one pound, gives it an acceleration of one foot per second per second, (b) That force which, when acting on a mass of one gram, gives it an acceleration of one centimetre per second per second, (c) The work done by a force of one poundal in moving its point of application by one foot centimetre, (d) The work done by a force of one dyne in moving its point of application by one centimetre and (e) The equivalent of ten million ergs.
3. They are five breeds of cows.
4. (c).
5. (b).
6. (b).
7. (b).
8. (a).
9. (c).
10. None.

1. (d).
2. (c).
3. (a). Bats have a complicated and highly developed auditory apparatus. When in motion, they emit a series of little squeaks which are too high-pitched for us to hear, and the echoes which these set up enable them to judge exactly how far they are from any obstacle. This principle is the same as that of the radar, the only difference being that bats operate on sound whereas the radar operates on radio waves.
4. (a).
5. (a).
6. (a) 91.8, (b) 74.3, (c) 56.1, (d) 36.0 and (e) 26.6.
7. (a) Levret, (b) Eyases, (c) Foals, (d) Joeys and (e) Kits.
8. (a) Yes. (b) Yes. (c) Yes. (d) First cold then hot. (e) No.
9. (b).
10. (a), (b), (c), (j) and (i).

1. (b).
2. (a)

3. (a) It affects only the bones, (b) It affects the skin and the tissues. They get punctured or torn, (c) This is an injury to the internal organs, (d) This is the breaking of the bone into several pieces and (e) This is the driving of one broken end into another.
4. (e).
5. (b).
6. (c).
7. (a).
8. (d).
9. The offspring of all are called cubs.
10. (a) Caves, (b) Forms of living organisms and their environment, (c) The same subject as (b), but more generalized, (d) Bell-ringing, (e) Earthquakes, (f) The doctrine of death and judgement, (g) The classification of diseases, (h) Bones, (i) Cells and (j) The basis and the method of arriving at knowledge.

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1. (a).
2. (b).
3. (b).
4. (b).
5. (d).
6. (c) and (e).
7. (e).
8. (c).
9. (e).
10. (e), (b), (g), (f), (i), (d), (h), (a), (j) and (c).

# SCIENCE QUIZ

Epidermology. Trapeesium. Allotropical.  
Lewisite. Calculus. Phlox. Phlebitis.  
Spaleology. Paraldehyde. Novocalne.  
Mysurplal.

Tongue-twisters, what?

Not really. For these familiar and not-so-familiar words with their simple and not-so-simple explanations may well figure (and quite surprisingly!) in some part or other of our everyday existence.

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Rs 25

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